CALIFORNIA ENERGY RESOURCES CONSERVATION

AND DEVELOPMENT COMMISSION

ENERGY EFFICIENCY COMMITTEE

WORKSHOP

STRATEGIES FOR ENERGY EFFICIENCY IMPROVEMENTS IN EXISTING CALIFORNIA BUILDINGS

CALIFORNIA ENERGY COMMISSION

HEARING ROOM A

1516 NINTH STREET

SACRAMENTO, CALIFORNIA

TUESDAY, JULY 19, 2005

10:00 a.m.

Reported by:
Peter Petty
Contract No. 150-04-002

COMMISSIONERS PRESENT

Jackalyne Pfannenstiel, Presiding Member

Arthur Rosenfeld, Associate Member

ADVISORS

Jim Tutt, Advisor

STAFF PRESENT

Dale Trenschel

Bill Pennington

ALSO PRESENT

Peter Jacobs, P.E. Senior Engineer
Architectural Energy Corporation

Ron Bergeson, District Representative II
Department of Housing and Community Development

Rob Bremault, Supervisor, Planning
Customer Services
SMUD

Bruce Ceniceros, Principal Demand Side Specialist
SMUD

Elizabeth Brode, Legislative Advocate
California Association of Realtors

Stanley M. Wieg, Legislative Advocate
California Association of Realtors

Michael G. Hodgson, President
CONSOL

Patric Eilert
PG & E

APPEARANCES (Continued)

ALSO PRESENT (Continued)

Charles F. Segerstrom, Supervisor
PG & E

Thomas Conlon, VP, Business Development
EnergyCheckup

Helmut Blum, President
Exterior Retractable Shading

Robert Knight, Ph.D.
Bevilacqua Knight, Inc.

Randy Blake
Blake Air Conditioning and Service Co., Inc.

Robert Raymer, CBIA

Dan Perkins, Consultant to SDG & E

Abdullah Ahmed, Consultant to SoCal Gas Co.

Jeff Chapman, Sales Representative
California Living & Energy

Jeff Blomberg
Sunoptics Prismatic Skylights

I N D E X

P R O C E E D I N G S

PRESIDING MEMBER PFANNENSTIEL: Welcome to a Committee Workshop on Strategies for Energy Efficiency Improvement in Existing California Buildings.

I'm Commission Jackie Pfannenstiel. I am the Presiding Commissioner of the Energy Efficiency Committee, and to my right is Commission Art Rosenfeld, the other Commissioner on the Efficiency Committee.

We have a pretty full discussion in front of us today, so I will just say a couple opening and perhaps fairly obvious comments. The reason for our process that we are going through right now is that we have a report due at the California Legislature on October 1 of this year that will describe strategies and recommendations for improving the efficiency of existing buildings. That is driving our timing. We need to get that report approved by this Commission and to the Legislature.

I think our real reason for being here is quite a bit more fundamental than that. That is that there is something like 13 million

existing buildings in California, many of which were built before effective building efficiency standards, and we would like to find with the combined expertise and interests represented here in this room, we would like to find some strategies for improving the energy use of these buildings.

So, we are looking to all of you to help us do that. We have a starting point for today's discussion. The staff will walk us through a draft report, which lays out a number of potential strategies, and I think there is at the end of the day nothing that says that these are discreet strategies and we need to decide among them.

Rather I think they are very useful ways of thinking about and approaching this tough issue and probably would work best in combination and in perhaps a modified version thereof.

With that, let me ask whether Commissioner Rosenfeld has opening comments.

COMMISSIONER ROSENFELD: Let's just get started.

PRESIDING MEMBER PFANNENSTIEL: That's fine. Let's get started. Dale.

MR. TRENSCHEL: Okay, thank you very

much. Maybe before we start, it would be good to inform the people on the phone that if you have comments, you will have to identify yourself before each comment that you have. I know we have a few people listening in by phone.

This isn't in your packet. I put this in here just because I have a thing about disclaimers because I am a wanna be attorney. On the first page of this report it says primary author, principle author, or something like that, Dale Trenschel, but I really think of myself as an editor. The people in this room are really the authors of the report.

We usually have the regular disclaimer at the top of the page, and then we had this secondary one that I was thinking might be appropriate for my role as editor, which is I am irresponsible for any information included or excluded, including any views, opinions, musings, or thoughts that I may have had during preparation of the document from now on and from this point and into eternity.

I don't want to be held liable in a court of law, those kinds of things, especially anything of an imaginary nature. So, there you

have it. I had to have something because people travel a long ways here, you know. So, you people on the phone, you missed that whole second bullet there. All right, I will serious it up a little bit here now.

On the residential side, we have several recommended strategies. The original grouping, I believe there were sixteen strategies proposed, and the staff sorted through those, and we dropped off a few of them here and there, but the ones that we had on the residential side were Information to All Homeowners, these are familiar to many of you here, you heard this in the earlier technical report from our consultant.

Information to All Homeowners is really to motivate homeowners to pursue energy efficiency measures. That might be to look at those homeowners that have -- target that have higher than average bills or fairly high bills.

In a way, it is sort of like a residential benchmarking, although I hate to lump those two items together. We are trying to separate benchmarking as distinctly commercial, but anyway, it would allow them to compare how they fair to their neighbors are like customers

that have similar kinds of homes.

The Disclosure of Time-of-Sale, this is an item that we proposed in the staff report that would be done for pre-1982 building standards homes, but the issue with this is that there's quite a few transactions that happen every year, something on the order of 600,000, maybe more than that even. Stan Wieg and California Association of Realtors probably would know this better than I. The way it is written now is this would be paid by the buyers or sellers and would involve in on an assessment, an energy assessment of the home at the time of sale.

The staff recognizes that there are some obstacles that need to be overcome for that. For example, we have to allow time for the training and raters, we need more raters to do this kind of thing if we were to pursue this measure. The Energy Commission needs to complete its HERS proceeding, those kinds of things, so this is not something that is in the immediate future. It would be further down the road, but I think it would be worth considering some additional just information that would be made available to the buyer at the time of a sale. That could be in the

form of a brochure on energy efficiency, those kinds of things in the interim. In the longer term, moving towards the ratings or more detailed information we think is a good idea.

On the Equipment Tune-ups, basically that is also something that would be paid for by the buyer or the seller, depending on what the agreements are when a home is sold. That would be something where the cost of that improvement or upgrade would be included and could be included in the mortgage at the time of the property sale.

Whole building Diagnostic Testing, we've been through that before. We talked a little bit about that involving identifying, correcting faults in the energy systems within a building. We think there is something on the order of 5.6 million older homes that would possibly be good candidates for this measure that would be also built before 1982.

Low Income Multifamily Housing. Basically, this is something where we heard at the last workshop that the Energy Commission should be more actively involved in assisting or offering technical assistants to property owners and housing agencies and non-profit organizations and

those kinds of interests. So, we have added that back into the report at this point.

We think also this would involve tuning up HVAC assistance, and that would be paid for through the PGC funds, eventually doing energy ratings as well in this category, especially for those properties that would make use of some of their tax incentives or other financial incentives that are available to them.

On the non-residential time, we have Benchmarking. Again, we have indicated that we thought it would appropriate to use PGC funds for the costs involved in administering this program.

Basically, the AB549 report supports the governor's executive order, which is to develop a plan for benchmarking of all commercial buildings, and the utilities play a key role in this strategy, and they are the ones that really would be the entities accomplishing this strategy.

On the Retro-commissioning. Again, with the detecting, diagnosing, correcting faults in commercial properties, we think the demand for those services is presently weak in California, but we think also there would be a need to build up the industry infrastructure also to have

further services available. That would really be generated in terms of offering PGC funds as an incentive to have owners, encourage owners to take some sort of actions on benchmarking.

Commercial Leasing, this would basically include clauses on the lease agreements to encourage owners to make efficiency upgrades. I think in the report we identified BOMA, the Building Owners and Managers Association, that they have a model lease that would be a good thing to pattern, a larger strategy.

I apologize for the size of the printing here on this one, but what I was trying to do is have the catch all category down here, these things that apply to both residential and nonresidential buildings.

In the technical consultants report, there were several items or strategies that were identified here. What I have done is just kind of underlined the ones that we thought deserved further consideration, and I've put the ones in italics that we were dropping out from the staff report. We were excluding from the staff report, but that had been mentioned or brought up through the technical consultant's report.

I don't think I want to go through each of these altogether here, but the branding and inter agency coordination, we are not anti-interagency program coordination, we just think we do a fair amount of that, and that we certainly support it, but maybe it is enough on its own to stand as a complete separate strategy.

On the Annual Energy Savings Estimates, some of you may be seeing this for the first time. For others, no so, but this again was based on the technical assistance work that we had done for us on the project, and these numbers are annual energy savings, so that the total at the bottom, the 300 GWh hours, for example, that is every year, and if items were to last a decade, then that would be 3,000 GWh of savings. This is something to keep in mind and the same for the MWh and the therm savings. These are all annual numbers.

What I did was I just ranked them from highest to lowest in terms of the electricity savings. So, we go from Information to Homeowners at 67 GWhs annually to the leasing, the Energy Efficient Commercial Leasing strategy at 4 GWhs per year.

Then in the far right two columns just in terms of perspective, to add a little bit of perspective there. I expressed those as a percentage of the proposed strategies. Of the nine or the eight strategies that we had quantified savings for, these first four, Information to Homeowners, Disclosure, Whole Building Diagnostic Testing, and the Commercial Retro Commissioning represent about 80 percent of those savings. Those top four are really the ones that have the bulk of those savings, although the total is -- I don't know what that totals up to. I didn't do that.

Also in terms of just what does that represent, how do we compare that, can we bring another apple beside it to put a comparison in there, so I also did that as a percentage of the savings that were expected for alternations and additions from the building standards, new building standards. That column certainly won't add to 100 percent because I am basing it on something else, but Information to Homeowners, for example, is about 30 to 31 percent of the savings that were forecast for the alternations and additions, those changes to the standards. That

went down to just a few percent for the commercial leasing strategy.

Again, based on that technical assistance to the contract and the results in there, these eight strategies that we have, I believe there are eight there listed, these are annual program costs as well. That first column of millions of dollars per year is the estimate that was prepared for each of these various strategies, and they would total up to $142 to $143 million a year.

The technical consultant on this case went through a cost benefit analysis, and they looked at the both from a participant level and from total resource cost level. Anything over 1, of course, was something that would be considered cost effective and I think we mentioned that as well in the report. So, there it is in a nutshell, those results.

We have I think I added up the bullets that were in the staff report, and there were about 60 recommendations in there, and I think we would rather hear what you have to say rather than each one of these recommendations that we have. If I had to boil them down into much lower number,

the first one would be more information, you know, an enhanced level.

The first bullet really represents the information to all category, that would be more online audits, multi-level audits, interactive components to that, more energy efficiency information disclosed to buyers when homes are sold. This is the brochure that I was mentioning earlier. The HVAC tune ups to homes when sold. Buried within each of these things are various other smaller components which would include training as well. So, there was some funding for training that we had in there. If you wanted to see the details of those, that is what that box on the right is, just for your reference to see where do we talk about that in a little bit more detail.

Promotion of Whole Building Diagnostic Testing of homes. Working with the insurance industry even to see if they could see that there was reduced risk for homes that had gone through whole building diagnostics, and if there were possible reductions in premiums, for example, that might be available to those owners.

Increased use of benchmarking, technical assistance to multifamily, property managers,

housing agencies, I mentioned that already. Promote retro-commissioning, maybe targeting customers based on the benchmarking information that would play, so the retro-commissioning and benchmarking strategies are really closely interrelated.

Page two on the final page on the recommendation, pilot testing some of the commercial leasing strategies, move towards fixed based leases, promote use of some model leases, this BOMA example that I indicated earlier. Educating building owners on the benefits of these kinds of lease provisions and forming some partnerships with some organizations, there is not an exhaustive list by any means, but the Building Owners and Managers Association and the California Association of Realtors, Energy Star, that kind of thing.

We had mention in there, too, that tenants have a role here to play, and maybe there is some leverage that they have with the owners at the time when these agreements are reached that would incorporate some benchmarking provision, maybe twice a year or once a year, or what have you.

Incentives for automation technologies, that's really from the demand response discussion and to consider use of our appliance and building standards to bring those technologies to market.

That is a category where we don't have any hard numbers on the cost or the actual savings, but we know from experience that in the energy crisis of 2001 that in that summer, there were a very dramatic decrease in demand that was made possible in part from demand response measures and educating consumers as well on demand response benefits. We discussed that briefly in the report as well.

Going to where do we go from here, we do have a first draft of staff report, and from this document and what we hear to date, the Efficiency Committee Report will be prepared, and that will be available early in September. Then we are scheduled to have that heard for full Commission adoption at the September 21 business meeting, and not too many days after that to have copies printed and made available and sent over to the Legislature.

One thing that is not in the report and that is all my doing is that we were piecing this

together and rushing to get this available, and I thought, you know, there is really an acknowledgements page that should be even in the staff draft report because everybody here provided us ideas and that we went through each person's suggestion and tried to incorporate those things that we thought would work.

In addition, we had probably another 30 people or so that were serving our working groups on residential and nonresidential sides, and some of the people at this table are the same individuals, again, wearing more than one hat here.

We also had a project advisory committee composed of the State's investor-owned utilities, a number from each utility as well as the Public Utilities Commission. That group was very helpful as well in providing some guidance on the way we were to go. Expert panel discussions, we had formed smaller groups even from the working groups, we had basically sub-groups, and those people made themselves available for several hours of telephone calls and further discussions, and we just really appreciate the time that they put into that, all free of charge, and willingly done too.

Interviewees, I don't recall the exact number, Pete probably does, but there were a lot of people that answered lots of questions that the technical consultant posed to them on the phone, and those calls were fairly long as I recall.

Of course, our technical assistants and all the subcontractors that performed some work on that project that was really something that was beyond our staff meetings to do in the time frame that we had to work with. So, we really appreciate their help.

Then I would just do my usual with recognition to many different staff members here at the Energy Commission. I can think of at least six different people, maybe they will brand me later for not mentioning names, but they know who they are, and they were very helpful all the way through benchmarking and from other divisions in the Energy Commission, and of course, the management within the Energy Commission, too, was very responsive and helpful in a lot of ways to me personally in trying to put something down on paper that we could have people react to. So, I really appreciate that effort too.

That concludes all that I have to say at

this point, so I am open for questions, and we also have Pete Jacobs from AEC who did a lot of the technical work, so if there are other questions on the cost analysis or on the savings potentials, those kinds of things, he is available to answer questions on that as well. That's it, I will resume my place at the table then.

MR. CONLON: I have a question.

PRESIDING MEMBER PFANNENSTIEL: Let me make a little introductory comment on that. In order to get your comments recorded in the transcript, you need to come to a microphone, plus I think the people on the phones won't be able to follow the conversation unless you are at a microphone. If you have anything to say, please find a seat. Thanks.

MR. CONLON: Thank you. This is Tom Conlon with GeoPraxis and Energy Check Up which is a service of GeoPraxis.

Dale, I just had a question about the annual energy savings estimates that you put up there, one of the slides. As I understand the analysis of the individual strategies, these analyses of energy savings were done independently, which I believe means that it is a

little misleading to sum them up because information provided to a homeowner resulting then in a diagnostic test of the property then resulting in improvements to that property, all the energy savings comes out of the improvements, but I don't believe you've done any allocation to these different strategies. Is that accurate, or am I misunderstanding.

MR. TRENSCHEL: Pete, maybe you would like to address that.

MR. JACOBS: These interventions were all considered singly, so there certainly some interactive effects, however, I would also our adoption assumptions are pretty conservative as well. I think simply summing those, you know, in reality isn't a terrible assumption, but you are exactly right from a technical perspective, there were no interactive effects of strategies considered.

COMMISSIONER ROSENFELD: I'd like to make a comment on that. What you are saying is of course true, but it applies more like one decade or two decades when we have made substantial progress.

As far as strategies to the first year,

the whole 300 MWhs is only 1/1,000 of our energy use, and so it doesn't use up a lot of the potential. If you are trying to see where to go for the first cycle of public goods funds and so on, I think it is okay.

In ten years, we hope we will need some recourse direction, but --

MR. CONLON: That's helpful, thank you.

MR. JACOBS: Just a clarification also on the information to all homeowners, those are based on voluntary adoptions. The actual adoption rates are similar to those for the IOU programs when they do audits. These are all self-financed voluntary adoptions from exposure to information through audits through that particular strategy.

MR. CONLON: Then perhaps a follow up question on that same point. With respect to the disclosure of residential time of sale home energy ratings, my understanding of the analysis that was done, the energy savings analysis of that element is that it, too, was based on voluntary conservative measure adoption ratios, not a comprehensive mandatory all homes built prior to 1982 would be receiving this treatment. Is that accurate as well?

MR. JACOBS: The analysis assumes that all homes are presented with the information, but that the homeowners once presented with that information voluntarily decide whether or not they want to act on it.

MR. CONLON: It is based on a mandatory HERS rating of all pre-1982 homes?

MR. JACOBS: Correct.

MR. CONLON: Okay because --

PRESIDING MEMBER PFANNENSTIEL: Then, Pete, what is the adoption rate of actually doing something with that rating?

MR. JACOBS: It is on the order of -- it depends on the measure, but it is on the order of 50 percent.

COMMISSIONER ROSENFELD: This is Art Rosenfeld, I am looking at your table 3.1 information to all homeowners, and it says, targeted 10 percent of unoccupied residential buildings. I think these percentages are pretty conservative.

MR. JACOBS: Yeah, indeed. Yeah, information to all homeowners. That is a targeted strategy, and the idea was to lop off the 10 percent that were essentially high bill, high

consumption.

PRESIDING MEMBER PFANNENSTIEL: Mike.

MR. HODGSON: Dale, I have a couple of questions, Mike Hodgson representing the California Building Industry Association, and maybe the first one is directed to Bill Pennington, if I could just kind of get a feel for the 2005 standards, it is stated that there were 216 GWhs saved from those standards. That was a 50/50 residential/nonresidential or more like 60/40 commercial versus residential? I am just trying to find the number to anchor my comments with regards to what the residential savings are in the 2005 standards, and I am guessing it is about 100 GWhs, right?

MR. PENNINGTON: I don't recall the split actually, it related to existing buildings.

COMMISSIONER ROSENFELD: This is Art --

PRESIDING MEMBER PFANNENSTIEL: No, building standards.

MR. HODGSON: NO, this is new.

MR. PENNINGTON: I'm sorry.

MR. HODGSON: The 2005 building standards.

MR. PENNINGTON: Okay, so I think the

estimate that is shown there is for additions and alterations and not newly constructed buildings, maybe I didn't understand your question.

MR. HODGSON: Okay, so the estimate here is strictly for what's on the additions and alterations. So, what is the estimate for new construction breaking down for residential?

MR. PENNINGTON: I didn't bring that information with me.

MR. HODGSON: But isn't it around 200 --

MR. PENNINGTON: Around 200 MWs.

MR. HODGSON: GW.

COMMISSIONER ROSENFELD: GWhs.

MR. PENNINGTON: I'm talking about peak.

MR. HODGSON: Peak.

MR. PENNINGTON: I don't know what the GWhs on those are.

MR. HODGSON: The comparison is hours.

PRESIDING MEMBER PFANNENSTIEL: GWhs.

MR. PENNINGTON: We can get that, I don't have that document.

COMMISSIONER ROSENFELD: I am interrupting you, Bob, but this is pretty important. This is the main table, well, it is an executive summary, and Raymer's whole operation is

compared with a footnote which says for comparison the 2005 building standards requirements that apply to additions and alterations. If it is only additions are alterations, and it isn't the whole darn thing, we better get that paragraph straight because it affects the whole way of looking at it.

MR. PENNINGTON: This is definitely for additions and alterations.

MR. HODGSON: Right, so the question then becomes is what is the GWh savings for residential new construction and you are saying it is about 200 MWs --

MR. PENNINGTON: I don't recall the split actually.

MR. HODGSON: Okay, so I think that needs to be added, so we need to pick a number, and let's call it for discussion purposes, 500 GWhs for residential new construction. I really don't know. It would be nice to know that.

Assuming that, then we go to your annual energy savings estimates which is the slide you have, Dale, and the top three give you about 185 GWhs, which are probably the most promising. I am not picking on number four because it is commercial.

If you look at one of those, the information to all homeowners, then that one has a TRC, and I am assuming you are doing the CPUC TRC test using whatever calculation they are using at the time means that is not cost effective using public goods funds.

Assuming that there are other things going on with Public Good Funds that are cost effective, then you are down to about 118 GWhs. So, if the savings from a new construction regulation is 500 GWhs, what we are saying is the entire market potential from this study is 1/5 of that. I'm lost because we are impacting 200,000 new construction homes with a new standard, and we are looking at a market potential of 13 million existing homes, and you are telling me -- I don't know the number because we don't have that, but it looks like it is five times more cost effective to do energy efficiency standards than it is to impact 13 million existing homes.

Maybe that is the answer, I certainly don't like that answer, but also I don't find it believable. I am just trying to -- I will lead to my second comment. At the last workshop we had, what the building industry's concern was is what

is the market potential in the retrofit market. I still don't see that. That is not a difficult analysis to do. You have a break down, you have an age of the housing, you can make assumptions of what those housings have within them for insulation and efficiency, and then you can figure out, compared to existing standards, what the market potential is.

My guess is that it is a little bit more than 100 million GWhs. I believe as Commissioner Rosenfeld said this is 1/1,000 of our annual consumption. Somehow this study is confusing me because, one, I don't think it has market potential, and, two, it tells me on a figure of maybe five or ten times more cost effective to go after new construction than existing. Existing has minimal regulations. That doesn't make sense to me. I don't think you have the documentation to back it up.

MR. TRENSCHEL: I am looking for a table that is in the staff report itself, not in the presentation, which was the energy savings potential, I believe. I should know exactly what page that is on.

MR. HODGSON: On page four in the

Executive Summary is what I was looking at.

MR. TRENSCHEL: Right.

MR. HODGSON: That is where the comment that I think Commissioner Rosenfeld would like expanded and so would I to say how is that relevant to new construction or to building standards.

The first time I read this I thought it was 216 GWhs for the building standards, and I appreciate the clarification. It's not, that is just for alterations which is great. Now, what is it for new construction. My assumption just looking at a multiplier quickly, Bill, of 200 MWs, that is at least 500 GWhs, if not 1,000 GWhs probably using a .217 multiplier which is the CEC's recommendation. I'm lost.

MR. PENNINGTON: We can look that up.

MR. JACOBS: I think part of the answer is that most of these strategies are voluntary, so there is this whole -- we have the technical potential piece, which is actually in the report, but then there is the way that individuals react to proposition and how many people are going to be willing to when presented an offer, act on it.

There is some fairly heavy discounting

of the savings based on the fact that for the most part, these are all voluntary.

MR. HODGSON: I think, and Pete I would appreciate being directed to that section of the report that says where the potential is, but I think that should be the lead issue in the executive summary is saying this is low hanging fruit. There are 10,000 GWhs -- I am making that number up because I don't know what it is -- in existing residential construction. Now, out of that report, here is the group's consensus is not the right word, but suggestions on some strategies to attack a small portion of that, and then we would know that that 200 GWhs that we are going after or 100 GWhs we are going after is really on 1/30 of the market potential or 1/100.

PRESIDING MEMBER PFANNENSTIEL: Mike --

MR. HODGSON: I don't think we have any -- I don't have any guess as to what the market potential is.

PRESIDING MEMBER PFANNENSTIEL: Mike, if you look in the executive summary, page XVII, the paragraph in the top, the first sentence. It is estimated that the energy consumption in the typical home or office building can be reduced 20

to 35 percent if current cost effective readily available or technologies are used.

Now that 20 to 35 percent is the kind of number I think that you are looking for in total for the total of the technical potential for all of these strategies.

I think what Pete is saying that he took that technical potential and reduced it down to some conservative level of assumed acceptance of these strategies.

MR. HODGSON: Right, but Commissioner, I just don't understand what the potential is, and I think right after that residential building stock table, it would be great to stick in a GWh potential table.

COMMISSIONER ROSENFELD: I have two comments for cleaning up. I agree with you, and one hopeful thing to say, it goes like this, first of all, I like you was shocked. I was reading this late last night, and it is very unfortunate that the table on page IV starts off with something which has a total resource test which is less than one.

If you then look back in the meat of Chapter 3, there are a couple of encouraging

things to say. There is a table, Table 3-1 on page 52, and I'll give you a second to find that. That is potentials, that is not annual any more. It turns out it averages to be a eight-year program, and you will see that there, the GWhs a year of potential is pretty good. It is 2,400.

MR. HODGSON: I've got that one marked.

COMMISSIONER ROSENFELD: Then you begin to see what the problem is because if you look on Row, Information to All Homeowners, it is Row 3, this is his point I just made to Pete Jacobs, you see that they only targeted 10 percent, and they had a fair amount of administrative costs probably in targeting the 10 percent.

I actually worked out if you just calculate the cost to conserve electricity, it is seven cents a KWh, which is pretty good. The administrative costs, we are dealing with 10 percent, must be a problem. You are right, we have to be smarter.

Now, one little piece of sermon, I think that it is going to be possible to be smarter, partly because there's going to be more interest in the future when we have time of use meters coming in. PG & E will start putting in interval

meters starting next year, and they are going to be putting them in at the rate of something like a million a year.

Those homeowners are going to have access to 15 minute data which is going to make your electricity bill a lot more interesting. It is going to make it possible for some advisor from PG & E to sort out the houses that really have the air conditioning running all the time because it is out of juice or the refrigerant or whatever. There is a lot of constructive things that can be done gaining more interest when you have interval information.

Down the road, the Energy Commission is considering seriously requiring new construction not only interval meters, which will be there, but programmable thermostats which will give you automatic response and will give you a lot more interest and all that. So, I am fairly optimistic that we can do something down the road, but your warnings are well pointed out.

PRESIDING MEMBER PFANNENSTIEL: Mike, does that number answer your question on page 52?

MR. HODGSON: No.

PRESIDING MEMBER PFANNENSTIEL: The 2.4

GWh -- it doesn't answer the question about current building standards, but it does give you the total technical potential of these measures.

MR. HODGSON: Of these measures, right. What I think the thrust of the -- well, our questions at the last workshop is what's the market potential period, and I think it is kind of back of the envelope, what's the 1950's house, what is the 1960's house, it is not I think a large technical task to do, and then we have this number. It is some number that is large amount of GWhs, and we know, okay, there is that potential in the retrofit market, there is this potential in the new market, what is more cost effective to go after, and I think that is the intent of the report is to tell us what markets we should be pursuing and what the potential is.

I see strategies here, and I see individual options to go after, but I don't see market potential.

PRESIDING MEMBER PFANNENSTIEL: You think the 2413 is just wildly under estimating the market potential?

MR. HODGSON: The reason -- yes. The reason I would say that, Commissioner, is that if

there's 200 to 1,000 GWhs in each round of building standards effecting 200,000 homes, there's probably more than that by a factor of ten affecting 12 million homes.

MR. JACOBS: That means that the technical potential on Table 3, one, assumes that really looks at the number of homes or businesses that are exposed to a particular trigger event, so it is not applying these strategies to every house. There is a discount factor based on the number of buildings or businesses that are exposed to a particular trigger event. So, I think what you are suggesting is if we even take that trigger event frequency out of the equation and just say here is the total potential out there, which in fact, has been calculated several times through the utility technical potential studies and so forth.

Essentially where this is all based in the first place is going back to the xenergy technical potential studies that were done a few years back where we then applied some trigger event frequencies then we've applied some measure adoption rates and some market adoption rates to sort of come down to something that we feel is

realistic in terms of voluntary strategies. If you want the big number in terms of the total potential, as you are suggesting, that is a pretty easy number to come up with.

MR. HODGSON: Let me suggest, and I am going to have to ask Stan to cover his ears for a moment because he is not going to like this, here is an option, we are trying to give the Legislature some information as to what potentially could happen. We have a peak load issue in the State of California, and we have since 2001. We are addressing it, but it is still going to be a long term issue for us.

What if we decided to require all homes upon sale to have spectral selective glass, tight ducts, and R 38 in the ceiling. In a matter of seven years, we would probably turn the majority of homes in California, because just looking at how the market responds, and the information that would come out of that is we would have "X" number of KWhs and "Y" number of MWhs saved. Right? That is a legislative edict, not that I recommend it at all, however, do we know the answer of what the savings would be if we did that. The answer is, no, and I --

MR. PENNINGTON: Those measures would not be cost effective just for every house. I mean you would be tearing out all of the windows that exist there and throwing them away.

In terms of just changing out window by window, you know, there's been extensive analysis about whether the energy savings supports that by a lot of HERS programs all over the US. The conclusion always is the energy savings don't justify that change out. So, people are making those change out because they like the comfort benefit or they like the noise reduction benefit, or they want to have their house sort of be more like a new house.

In terms of the energy savings carrying the measure, it doesn't carry the measure. So, basically, window change outs are considered in home energy ratings, and the measures are ranked for cost effectiveness, the window change out will be fairly low on the list, and the rater is providing information that says if you made that change out, if you want to make that change out for other reasons, then here is the energy benefit you would get. Then they try to package that for financing if the homeowner is after those other

benefits.

PRESIDING MEMBER PFANNENSTIEL: Stan?

MR. WIEG: Yes, thank you, Commissioner. Mike is right, I flinched on a little bit, but he is right when he says that there is big potential for we could put it the low hanging fruit, but he is wrong in that if we leap to the conclusion that the indicator for doing that is transfer.

The indicator that we use should not be whether the property transfers, the indicator should be whether this is going to be a cost effective change in the existing structure. If we are going to make this program itself cost effective, the way we have to do that is get out and identify the houses that we want to fix or the items in the houses that we want to fix. As it was pointed out, some of the windows just don't pencil out, but the insulation sure does.

We know that metering, for example, just by the fact that you've got the metering leads to conservation. It is kind of like when you are on a diet you should write down everything you eat, then pretty soon you are eating less. Similarly it works with water, and it will probably work with energy as well.

The indicator that we use that focuses our attention and focuses our analysis on the cost effectiveness, we suggest should appropriately not be sale, but rather need and efficiency in the existing dwelling. We've got buildings that were built in the 50's, and compared to buildings that were built in the 70's, you know, there may be some dramatic differences in return on our investment of activity there.

MR. PENNINGTON: This information is trying to identify what are the transactions that normally happen in the existing building sector, what is the frequency of those transactions, what would be cost effective to do in those transactions. What would be the likely acceptance of people to take action in those transactions, most of which are voluntary programs.

You get a bunch multipliers there from a very huge 60 percent of all the buildings are older than 1982, but you know, can you practically get there and what can you do cost effectively on an annual basis, these are annual savings.

PRESIDING MEMBER PFANNENSTIEL: Mike?

MR. HODGSON: The only point I have is we don't have -- and I am not recommending any

mandatory strategies, but the only issue -- there are many issues. The big issue that we have is we don't have our arms around what the potential is.

COMMISSIONER ROSENFELD: Let me make one last comment. We shouldn't stay on this all morning, but I am going to repeat what is a little bit of a shock, and we need to be guided through it on the next addition.

The Table 3.1 I repeat is not annual. That's page 52, and it adds up to 2,400 GWhs. That is only one percent of our electricity, almost exactly one percent of our electric sales. I think most of us in this room who are familiar with xenergy report remember potentials of more like 15 percent for residential and 18 percent of commercial or something. One instead of 15 or 18 is a little shocking, and we need a paragraph or so guiding us through why only a small fraction.

MR. JACOBS: Right, I think you found part of was that we were only targeting 10 percent.

COMMISSIONER ROSENFELD: That's right. I am sure you guys did it carefully, but we need to have our hands held a little bit.

MR. JACOBS: I guess what I am hearing

both from you and from Mike is that you would like to see the total technical potential column put in there along with the discount factors for the trigger event frequency and the market adoption and so forth.

MR. HODGSON: Pete, I see them as two tables because I think you have some very interesting suggestions on what to do, and I am not trying to discount that. I think the table that leads in front of it is what is the market potential. Okay, and then from this market potential, here are the smartest strategies this group has come up with to address those. What I am missing is the first table.

MR. JACOBS: Yes.

MR. HODGSON: You probably have the information, but I don't see it.

PRESIDING MEMBER PFANNENSTIEL: Other comments on this generally on the staff report, other areas of the staff report that people want to comment on? Please come up to the table and speak into the microphone in order for your comments to be transcribed, and identify yourself, please, for the record.

MR. BLUM: I think I will open up with I

don't know if I was invited, I don't know if I am welcome. This is Helmut, I am the owner of European Rolling Shutters. The only thing which I found here (indiscernible), is that the staff report. I don't know, I couldn't find a parking place, but I come in particular as it says here actually needing legislative support. This is where Bruce Ceniceros and myself two years ago were working on, and this is something which deals with homeowner associations that they refuse basically energy saving devices, which are exterior awnings, removable awnings or moveable awnings, shutters, and sun screens.

If there is a question to it, you know, I follow this from the beginning when the Lawrence Berkeley Labs started in their first report when they introduced and finally the fiberglass was (indiscernible) as a saving. They came up from that 40 percent of energy is going through windows and doors, by improving the glass, they only catch ten.

Then they investigated my products and said, Helmut, why did we not know about your area, we would have recommended single glass and exterior shading because shading, exterior

shading, you can catch almost a whole 40 percent.

Let me say a little different. What I found out is the problem is not so dramatically, like if 40 percent goes through windows and doors, if you look just at the heat, you have never seen the house at more than 90 degrees plus or minus, you know, even if you have 120 degrees on the outside.

Exterior shading has the potential that they can reduce to between 10 and 90 degrees, so I can with exterior shading make sure that your temperature in the house will always be lower 90 and basically very much in the vicinity of 80 degrees.

I measured yesterday when I came from work, and I have an electronic measure device with thermo couplers at the end, I had 77.5 degrees at 5:00 when I came from work, and it stayed that way, even when I rolled the shutters up.

What I think is that exterior shade, this is basically the request in this year, where it says action needed, legislative support, that what Nevada did and Arizona did, they particularly were focusing on rolling shutters, the homeowners association cannot deny it any more.

If you meet the if somehow it is not too obstructive and too awkward by color wise and whatever there is always possibilities, if that fits somehow, when you go to San Jose to the villages, these are okay. They just want to know what color and everything is granted, they do not even insist anymore on city permits.

Any questions?

COMMISSIONER ROSENFELD: Yeah, this is Commissioner Rosenfeld. Helmut Blum has appeared at several of these workshops and has been very valuable, and I would just say that I have listened to him, and the PIER program has a small contract now with Lawrence Berkeley Lab to look into the cost effectiveness of exterior operable shutters. So, we are paying attention to you.

Now, I'm going to agree with you that there are several things which homeowner associations I think somewhat backwards looking for the good ole days when we weren't scared of global warming and fuel wasn't expensive, may not like operable external shutters, and they don't like wide roofs, both of which are very cost effective.

I am actually going to sort of join with

Helmut Blum, one thing we can do is I think complain about old fashioned prohibitions by homeowner associations.

MR. BLUM: Thank you very much. If you will allow me just one more word. In particular for you, I have a booklet with 200 letters from customers out of a total of a sum of 6,000. We have been doing it now for almost 20 years, and it is very successful. One of the key items is the biggest complaint I get, you can say probably over 90 percent, why did we not know about you earlier.

The other thing is that you guys are the best kept secret in the whole Santa Clara Valley. I will give you if you allow me very short and old man comes to the homeshow and says --

COMMISSIONER ROSENFELD: Helmut, I think you have made your case. Maybe you should stop while you are ahead.

MR. TRENSCHEL: I would just say not only were you invited, but you see I even prepared a name tag for you here, a name plate.

MR. BLUM: Sorry, you see, but I will apologize in person.

PRESIDING MEMBER PFANNENSTIEL: Other comments? Yes, sir.

MR. KNIGHT: My name is Bob Knight, I am representing the California Building Performance Contractors Association. The Commissioners have heard me talk about these things before, but I want to say a couple of things for the record.

One is I'm concerned about the assumption that is made in this analysis about homes only being pre-1982 to be appropriate for retro-fitting. In our program with the CPUC, we are finding that in fact most of the houses that we treat are newer than 1982, and we are achieving major energy savings.

In looking at houses that were built only a year or two ago, we still find that we can make major improvements because of poor quality installation. So, I think that the number of houses that are being estimated here is just simply too low. That 5.6 million especially given that the housing stock continues to rise and it continues to add to the stock of houses that are going to need improvement within the next few years.

The second point is that my feeling very strongly is that the energy savings estimated per house for the item on residential retrofits is

also far too low. The modeling that we have done on houses in different climate zones in California, again and again, turns up savings of anywhere from 2,000 to 5,000 KWhs per year, not 600 as has been estimated in this study.

I know that the DERH values will tend to push you toward the lower number, but I am convinced that the DERH values are just flatly wrong. I have talked with John Proctor and others about this. We all believe that those numbers are vastly understated.

So, I think some consideration should be given to increasing those values. I can help to provide a rationale for that.

COMMISSIONER ROSENFELD: The 600 KWh a year number, what table is that in?

MR. KNIGHT: It is not in a table, but if you do a little simple calculation of the number of GWhs that is estimated and divide that by the number of houses that are assumed to be treated each year, you get 600.

COMMISSIONER ROSENFELD: Thank you.

MR. KNIGHT: The third point is that I have a running battle with the CPUC on the TRC because of homeowner motivations. The high cost

of complete comprehensive retrofits to a home, and it is a high cost, tends to blow the TRC, however, most of that money is not being spent for energy efficiency improvements. It is being spent for other reasons. Our independent evaluation contractor has survey data to back this up, and I really think that it is appropriate in the case of comprehensive retrofits that the participant cost in the TRC and the participant test should be drastically discounted by probably 75 percent or more.

That would put the TRC where it should be. I am troubled by the fact that of all the different measures that are in this report, the lowest TRC's are for residential, comprehensive residential retrofit diagnostics. By the way, that term is a little odd because if you read the text, it talks about integrated diagnostics and retrofits, so it is more than just a diagnostic.

The diagnostic itself, just like an energy audit, doesn't create any savings at all. The diagnostic just needs to be added to a quality installation. Generally, as the report correctly says, that installation should be an integrated operation done by the same people who do the

analysis.

Thank you.

COMMISSIONER ROSENFELD: Don't go away. You dropped this tantalizing estimate that you could save 5,000 KWhs in some houses. Is that in the average house including the old ones, or that is for the newer than 1982 homes?

MR. KNIGHT: The houses that we have had the biggest energy savings in have been the newest, and it is partly because they are larger, and it is partly because the people who live in them are not much concerned about energy efficiency. You will find very surprising things that go on in some of those houses: running the pool pump 18 hours a day or 25 hours a day almost, an incredibly bad design for the HVAC system that will put two five ton air conditioners in a 4,000 square foot house with what looks like appropriate installation and so forth, but, in fact, everything is installed so badly that none of those benefits are actually being realized.

COMMISSIONER ROSENFELD: So, actually the same question, one is for you and one is for Bill Pennington. What does either of you know about the measured electrical usage of these post

'82 houses as compared with what they should be under Title 24? I'll ask first Bob, and then I'll ask Bill.

MR. KNIGHT: The only data that I have -- I am in an on-going conversation with PG & E to get better data from their building records on that exactly that question. The data that we have is that we do have utility bills on quite a few houses that we got as part of our program.

We have an arrangement with PG & E that if the contractor is able to get the homeowner to sign this ridiculous three-page very fine print form that looks like you are signing your life away, you can actually get the utility bills.

What we have discovered in the utility bills for the houses that we have is a utility usage that averages around 9 to 10,000 KWhs a year with out wires in the step that we have going up to over 15,000 and down to around 5.

PRESIDING MEMBER PFANNENSTIEL: How many such bills do you have? How large is your sample?

MR. KNIGHT: Oh, I think we have 25 or something like that. It is not very many. I have to admit quite frankly that these houses are houses whose owners have come to us for these

services because they think perhaps they have a problem. In fact, they do.

COMMISSIONER ROSENFELD: I'm going to give Bill a chance, but I see you or Jackie sees you. Bill, what --

MR. PENNINGTON: I don't know the answer to your question. We could get that from the forecasting folks. I think in general it is a lot lower than what Bob is saying for the sample of houses that he is talking about. I would want to agree with some of the points he has made here. There are big opportunities for savings for post 1982 houses.

For example, the standards did not address duct ceiling until 1999, and that is not a mandatory measure, it is an optional measure in the performance approach, so there is a bunch of houses that don't have duct ceiling in them that were built last year. Sixty percent of them don't have duct ceilings, that is of last year.

MR. KNIGHT: At least.

MR. PENNINGTON: We are just entering into a period when the standards will address the quality of installation of insulation, and that is a compliance option at this point. So, certainly

there have been flaws with the installation of insulation for years.

The installation of air conditioners is known to be problematic for all generations of houses.

COMMISSIONER ROSENFELD: Just to enter a comment. It sounds like you and Bob both agree that we should venture into some of these programs perhaps as pilots, and we might get very interesting in rewarding --

MR. PENNINGTON: My understanding of where the 1982 year came into play was related to the home energy rating system disclosure measure where the idea was that we would start with a program that would focus first on those homes that were prior to performance standards, and you might find a good portion of those homes had limited ceiling insulation, other kinds of problems with those homes, that you would not find in newer homes.

I would very much not want to see the Energy Commission stop when it is done with pre-1982 houses because every house can take advantage of duct ceiling for example.

COMMISSIONER ROSENFELD: That is very

interesting. Thanks. I'm sorry, I have sort of been monopolizing things. Stan wanted to say something.

MR. WIEG: Madam Chair or Chairman, I was intrigued by the suggestion that 75 percent of the cost of the whole house, if I understood correctly, the whole house improvement was things that were essentially, again, if I understood correctly, cosmetic or lifestyle related and not really conservation related, I would be intrigued to see how we could separate out what is really energy related from what's comfort, style, or cosmetic related because that might really focus us on things that we should be doing.

MR. KNIGHT: I would be happy to provide that data.

PRESIDING MEMBER PFANNENSTIEL: That would be terrific, we would really like to see that. Thank you.

MR. KNIGHT: One more comment about energy savings. I looked at CEC data that was compiled from IOU records, on the total residential energy use by county in 1995, and you have another table for the year 2000, if you compare those and extrapolate, 2000 by the way is

a lot higher than 1999 and 1995. If you extrapolate to 2005, just do a rough roundhouse kind of estimate of home energy use, in lieu of the commonly sighted roughly 7,500 KWhs per home in California, what we find is that it was 7,500 KWhs in 1995, there was about 8,500 something like that in 2,000, and it looks to be well over 9,000 in the year 2005.

If you disaggregate that by the hot climate zones versus the coastal areas, you find that the average begins to push up toward 10,000, 11,000, 12,000 even in those counties. That is an average of all homes.

Now I have to say that you have to make some heroic assumptions because this is data on accounts, residential accounts, and you have to make assumptions for what proportion of the total you are going to assign to apartments, in some case apartment buildings are individually metered, some cases they are master metered. So, you have to make some assumptions about that, but it is a fairly robust kind of analysis even when you do it on the back of an envelope.

PRESIDING MEMBER PFANNENSTIEL: Maybe we can ask the utilities who are here whether they

have that information broken down by household and single family homes and apartments and whether we can get that kind of information.

MR. JACOBS: I can provide some, you know, clarification on the assumptions we used for the energy savings. We basically for the whole building diagnostic testing and retrofit intervention, we assumed that the energy savings were directed at the HVAC end use. So, you know, improving, lowering infiltration rates, improving installation and ceiling duct work, correcting pressure imbalances, that type of thing.

Essentially, we are directed at the HVAC end use.

MR. KNIGHT: Yeah, but in fact, a lot of the energy savings are due to the shell measures which reduce the load on the HVAC system.

MR. JACOBS: Correct, correct, but it is all directed at the HVAC end use as opposed to lighting or other types of appliances. Then we applied essentially 50 percent savings based on some work that was done at LBL, and we applied that 50 percent savings fraction to the HVAC end use intensities that are in the xenergy report which range between 800 to about 4,000 depending

on the climate zone.

MR. KNIGHT: Yeah, I have a lot of trouble with those numbers.

MR. JACOBS: Yeah, so that is kind of -- the root of it is the assumptions that are used for HVAC unit end use consumption by climate zone. Clearly we had our analysis anchored in that from this energy data. I think the savings fraction that we use is probably realistic, it is just the percent of watt that we're talking about.

The other issue is I'm totally with you in terms of the value that homeowners place on some of these improvements and the fact that it is difficult under traditional cost effectiveness to figure out how to put a number on that value, and so, one analysis that we did do that didn't make its way into the report, but it is in our consultant report, is we actually looked at some sensitivity on non-energy benefits.

If I am really going to tighten up house and get all these comfort benefits, what that might be worth to me on an annual basis and how might that affect the TRC, so we do have some analysis in the consultant report about that.

Yeah, I think your suggestion of -- I

mean there are a couple of ways to do it, you could put an annual benefit to the homeowner of increased comfort and try to put a numerical value on that, or you can just discount the first cost and see how that pencils out.

MR. KNIGHT: It is much easier to discount the cost.

MR. JACOBS: Yeah, so --

MR. KNIGHT: Fewer arguments. Sure, I'll be glad to give you the data.

MR. JACOBS: Yeah, we can consult on that a little bit later.

MR. KNIGHT: Sure.

PRESIDING MEMBER PFANNENSTIEL: Let me just go around, we are still talking about residential strategies and let's see what we have on that. Yes, sir.

MR. BLAKE: I am Randy Blake from Blake Air Conditioning. I represent the Institute of Heating and Air Conditioning Industries. I want to make a comment on the energy efficiency technical training part of the report on page 16 and 17.

The report delves into a few issues as far as getting training, immediate training

through technical and through community colleges to the young work force, however, this work force these people are not in the work force yet. It also states that it is going to be a year before they would be effectively in the work force and being able to do any type of energy efficiency implementation, strategies, fixing, repairing technical whatever they do.

Then the report goes on to say that through industries and through what not, there could be training. At the very end of the report it says the training is a large investment of time and dollars while the strategy is not among the top recommended option because of the difficulty of assigning energy savings.

I disagree with that, even though there is not a hard number put behind training, if we don't take our qualified existing work force and train them correctly to implement the programs, it is virtually impossible to have any successfulness in the programs if we don't give them an opportunity to do the correct and the right procedures, it is not going to happen.

It is going to vary through the whole industry. Everything is going to be done

differently, and nobody is going to be able to give any type of accurate accounting. So, the Institute of Heating of Air Conditioning feels that the education of existing work forces should be a high priority for immediate results. Long range results, the technical training through community colleges and technical schools is fine, but those workers aren't going to be out in the field being able to do this for years to come.

Even if they do come out within the next years, they are still going to be at the bottom of the workforce. The percentage is very very few. Yeah, absolutely not, they are not the boss, and the boss is going to be -- he is not going to take the word of a kid fresh out of community college or technical school to change the whole (indiscernible) of his operation. It has to be through qualified existing work force that we need to do additional training also. That recommendation I think really should be changed from not recommending it to highly recommending it.

Funding may come from other sources, but it should be recommended.

PRESIDING MEMBER PFANNENSTIEL: Yeah,

funding might be the issue, but thank you for that.

Other?

MR. CONLON: Again, Tom Conlon, Energy Check Up, service to Praxis. I wanted to draw everyone's attention to page 3. I found the section I was looking for.

COMMISSIONER ROSENFELD: III or 3 in the text?

MR. CONLON: Arabic 3.

COMMISSIONER ROSENFELD: Arabic 3.

MR. CONLON: The final paragraph appears to lay out the basis of the savings calculations for the time of sale estimates. My interpretation of reading this is that only ten percent of these homeowners request an energy inspection.

If I understand that correctly, that is a voluntary approach that is using incentives and other kinds of promotion to encourage people voluntarily to get the energy inspection in the first place.

I just want to commend the Commission for thinking through some of the market issues involved in implementing this strategy. I do think that is valuable, and I think it would be

important to -- if this in fact the approach that is being proposed, it should be made clear in the report that we are not in the near term recommending mandatory 100 percent time-of-sale inspection for homes pre-1982. I was confused by this in my read of the report, but as I understand it now, while that may be the potential out there, we are talking here specifically in the near term about voluntary programs with approximately 10 percent adoption rate. I think that is a reasonable way for us to proceed in the near term.

My second point goes to the section I think it is on page 13, let me get there and confirm. Right, on page 13, the GeoPraxis type rating, third paragraph down. Again, this same point that -- I think the report should be made clearer about the phasing of the recommendation here. If the recommendation is that in the near term of voluntary incentive driven approach is advisable, and that acknowledging here the geopraxis, our firm has developed a viable approach to that, the last sentence in that section as a result, the earliest that this option could be implemented would be January 2008. I don't see any reason why we wouldn't need to wait

until 2008 to begin to implement a method that has already been proven and is recognized in the state best practices study as a cost effective approach.

If I am getting anything wrong here, I would like to have that clarified now, I would like to see the recommendation better articulated.

PRESIDING MEMBER PFANNENSTIEL: Dale, Pete, or Bill can you respond to the question?

MR. PENNINGTON: In terms of the 2008 date, that is actually a direct follow up from the previous sentence that is indicating that the Energy Commission needs to complete its HERS proceeding.

That would be basically having some time for the industry to respond to a newly adopted requirement for how to do HERS before that requirement would go into effect. That is anticipating time for a proceeding, time for the industry to get notice, and for HERS providers to train raters, and for that to go into effect.

MR. CONLON: You are saying that it would take until 2008 before even the voluntary approach which we have already piloted and found to be effective, we should wait until then, or is it possible that --

MR. PENNINGTON: You are currently doing business, right, as a HERS rater --

MR. CONLON: Right.

MR. PENNINGTON: -- and there have been some utility programs to incent that with sort of various conclusions about the effectiveness of that. This is not saying stop and wait until the Commission is ready to launch this. This is just saying this when realistically all -- there would be an infrastructure for HERS providers that would be consistently doing all the training and certification and oversight that HERS provider would be expected to do.

You could launch a statewide program of multiple HERS raters for sure and probably HERS providers also.

MR. CONLON: That makes a lot of sense to me that it would take a couple of years to complete the HERS proceeding at the CEC, and we would certainly be in support of that process and would encourage that.

I just wanted to be sure that it wasn't simply saying stop now and wait until that proceeding is done before doing some promotion and perhaps allowing the utilities to do some

incentive based programs --

MR. PENNINGTON: We are in agreement with that.

MR. CONLON: Okay, that is just what I wanted to be sure that was clarified. Perhaps the report could be clarified on this point then, thank you.

PRESIDING MEMBER PFANNENSTIEL: Other comments on residential? Yes, right here.

MR. SEGERSTROM: Good morning, Commissioners, I'm Charles Segerstrom with PG & E, and I wanted to underscore the importance of some of Bob Knight's comments with regard to crawl the installation in existing housing and the increasing consumption by housing.

I don't have any particular studies to offer to underscore that other than what has been mentioned, but what I would like to suggest highly is that the HERS proceeding for existing housing take place as soon as possible because there are issues with regard to home energy ratings.

I am familiar with the history of home energy ratings, as well as accuracy studies that have been done by Lawrence Berkeley Laboratory, as well as the CHEERS organization, as well as other

national organizations that indicate that the most important comparison is actually billing history versus modeling results.

With regard to existing housing, the tools that have been time honored by this Commission don't work very well for existing housing. The accuracy does begin to fall apart, there must be not only human intervention factors, but also structural characteristics that are involved.

The good news in the accuracy studies is that overall with new housing, the tools are coming in at a fairly accurate value when comparing model consumption to actual consumption. As a home gets older and less efficient, there are problems in that either the consumer gets the price signals squarely and adjusts thermostats accordingly, or there are other technological issues, and some are being studied now, attic models where there is no such thing as a R1 attic.

R1 attics really should be looked at in a more comprehensive ways. It is really probably more like a R5 because as soon as you get down to those very low R values, it is an exponential increase in consumption.

So, what this means to us with the home energy rating being so important to this recommendation, the accuracy study work that needs to go into the regulation is of prime importance to the population.

A good reason for that is we can look around the world actually and see the European union requiring ratings on homes upon title transfer, and we can even see over Altamont Pass into the Bay Area where the City of Berkeley is looking into updating its retrofit ordinance.

The end game here could be requirements to retrofit homes according to home energy ratings. So, with that in mind, you know, we would just like to emphasize the need to get those rating values and cost benefit analyses for the existing homes modeled correctly and don't think that it is a simple task.

We used to think it could be, and some of the committees nationally said this isn't rocket science, what are we waiting for. I said that it is definitely not rocket science. If it was rocket science, we would have had the answer 15 years ago, so there are some issues of substantial technical difficulty with existing

homes.

As Bob mentioned there, I definitely outliers where we would expect in new construction homes to perform, there are definitely installation quality issues that are being addressed by new standards but can apply to newer homes.

The good news I guess is when we look at utility bills and a substantial model, a substantial collection, new homes are matching up well, but existing has work to be done.

PRESIDING MEMBER PFANNENSTIEL: Charles, do you have some analysis that can help us along these longs. I know that we have some that Pete talked about, but I would be really interested in household usage over time and perhaps by geographic region, and then anything that you might know of the sample of homes that might have been retrofit before and after and obviously not giving us individual household information, but some quantification of the total sample. Would you have anything like that?

MR. SEGERSTROM: There are some new international studies that have looked at different regions --

PRESIDING MEMBER PFANNENSTIEL: No, I mean within California, within your service territory.

MR. SEGERSTROM: These bill analysis studies, you know, are fairly broad based, and Jeff Stein with Lawrence Berkeley Lab did the initial study. The CHEERS organization also conducted an internal one, but there is good public data as to the predictability of the tools.

PRESIDING MEMBER PFANNENSTIEL: I see, but PG & E does not have information that could be made available about household, single family as opposed to multi family average usage over time, over some period of years by --

MR. SEGERSTROM: We don't have a particular study that would answer those questions.

COMMISSIONER ROSENFELD: I have a further question on that. I think I wasn't listening very carefully, but I heard you say that new homes tend to agree with either Title 24 or HERS ratings pretty well, but then they creep up.

Did you say they tend to agree with Title 24, or did you say they agree with HERS ratings, or did you say both?

MR. SEGERSTROM: In the data base for California new construction cases, the HERS rating is based on a Title 24 type model, so it would be in sync with ACM qualified models.

COMMISSIONER ROSENFELD: Thanks.

MR. PENNINGTON: Can I just follow up just shortly. When we were required to suspend the HERS proceeding, we were just getting into these issues about how to calibrate the models relative to existing housing.

It is a little tricky to know how to do that and to figure out what is going on with all the variables that are occurring.

One of the things that my understanding is and PG & E urging the Energy Commission to reopen the HERS proceeding and pick up on this is that there may be some interest in utility funding that would assist related to these kinds of projects.

It would be very helpful to the Commission if that was the case and there was that kind of resource to assist. Do you want to respond to hat?

MR. EILERT: Pat Eilert from PG & E. I'll bring it up during statewide planning.

COMMISSIONER ROSENFELD: I didn't hear you, I'm sorry.

MR. EILERT: I'll bring it up in various planning groups within PG & E and see what we can do.

PRESIDING MEMBER PFANNENSTIEL: Stan.

MR. WIEG: Stan Wieg with the Realtors again. Not to harass the utilities guys any more than we have to, but one of the things that we have suggested is that we are a ways away from getting the ratings we want, and I see that the staff suggests that we ought to create a definition of material fact which by the way, would be novel in California law. We haven't done that before.

One thing that would be a nice interim step is if we have the utility bill available on request in an easy web based application that we could get to quickly because that certainly would be material in a transaction. Material, in fact, is one that changes whether or not you would buy it, and if you would buy it at what price you would buy it.

So, if we could build into our kind of pre-flight check up on an offer, what the utility

bills were for the last year and either query that perhaps based on some authorization of the seller or build that into our inspection process, I think that might focus attention or focus inquiry on exactly the kinds of things that we want discussed, even though it doesn't rise to the level of a rating, utility bills are nonetheless valuable for somebody coming into that particular housing unit.

I don't know if that would need additional statutory authorization or regulation or whether you could just do that. I know that privacy is a big hot spot right now in the legislature, but it seems to me that if the seller controlled that access or the occupant controlled that access, that might be very valuable in on-going changes.

COMMISSIONER PFANNENSTIEL: I'd like to get on Stan's bandwagon, and I am looking at Pat Eilert. There's been some discussion of availability of data in connection with the introduction of interval meters.

One of the points that our Chairman Joe Desmond feels strongly about is that these data do by golly belong to the homeowner. That they shall

by golly be available to him or her easily on the web, and that the homeowner shall have the privilege of assigning them to an agent be it Mastercard or be it some consulting company, be it Bob Knight Consulting as far as I am concerned for analysis.

Looking at Pat, if we are going to have to figure out how to move into that world anyway, maybe we should move into that world a little earlier without waiting for the interval meters. PG & E does after all have all of these bills on its servers, and I'm sort of with Stan, it would be nice if the homeowner could just make a phone call or initial a slip and this information could become available now, and we don't have to put it off for a couple of years. Maybe we should talk about this online, but Stan I think you have an interesting idea.

MR. PERKINS: This is Dan Perkins in San Diego (inaudible), the customer can access their 17 month history, and I've used that on several occasions. In a lot of cases, I find that to be very effective. That probably would not have as much effective if the house was being transferred at time of sale because you would have a

difference in the occupancy.

For those homes that are doing remodels or just interested in upgrading, that is a very valuable tool, and it is not very hard to come by for SDG & E customers, and it is something I've looked at, the website on PG & E to see if I could find something and Edison, and I wasn't able to find that. Is that information available at Edison and PG & E?

PRESIDING MEMBER PFANNENSTIEL: Is it available at PG & E, do you know?

MR. SEGERSTROM: Yes, in fact, for our internet customers, the billing history is available, and it is able to be combined with a bill disaggregation audit to provide additional clarity as to what that consumption history means. It is a little bit more difficult in cases as Bob did describe where customers don't have electronic access to their own accounts, which I admit this is a new opportunity for customers.

On the other hand, we are very concerned about privacy issues and confidentiality such that it needs to be the customer's decision to release the data to a transaction, not ours or a real estate entity.

MR. PERKINS: Absolutely, and I will tell you they do require that you have the proper information to get this, and that is the account number, the meter number, and where that bill is being sent, so it has to be something that is approved by the customer. I fully agree with that, but it is a very valuable tool in a lot of cases.

PRESIDING MEMBER PFANNENSTIEL: Thank you, yes, Charles.

MR. SEGERSTROM: A short follow up comment that in designing home energy rating programs, one of the key elements is to rate the home not the occupants. The occupants are what you are looking at when you look at their utility bill. Sometimes the nut is holding the wheel of the --

PRESIDING MEMBER PFANNENSTIEL: We all appreciate that, but I think that there is also a level of information that is better than nothing to start with in terms of the household energy use.

Yes, Bob.

MR. RAYMER: I agree with you.

PRESIDING MEMBER PFANNENSTIEL: How

clever of me. Other comments on residential? Yes, sir.

MR. BLUM: May I just one thing in between. In order to (indiscernible), I had to find out and basically that was no air conditioning, that was about 800 average per customer was a (indiscernible) was four to six years.

They have data the customers.

MR. AHMED: I have some questions. My name is Abdullah Ahmed, Consultant to Southern California Gas. With me is Ron Caudle, he also works for Southern California Gas, and Lance DeLawa could not make it, so we are here on his behalf.

Just a couple of questions. We got into this thing a little late, we are not aware, and did not participate earlier, so some of these questions could have been already answered before.

The question I have is it possible to desegregate the costs between PGC funds versus homeowners funds because some of the measures have the costs combined. I think especially in the multifamily measures of some of the costs are to be born by the property owner and others could be

funded through PGC funds.

The next question I have was regarding the overall report itself, how is it going to be presented to the legislature? Would it be presented to ask the legislature to increase the PGC funding from the utilities for surcharges to fund these programs, or is the level of funding will remain the same, but the IOU's will have to change their program design to includes these measures? It is not very clear. I did not find any explanation on that in the report.

One other comment was on the benefits of the cost benefit analysis. Did it include non-energy benefits? I think that I heard that it did not include non-energy benefits, things like comfort or other say air quality issues and emission benefits and so on.

MR. JACOBS: Should I respond to that now? In terms of homeowner or property owner non-energy benefits, those in general were not included. We did, as I mentioned before, we did do a sensitivity analysis for one of the interventions just to look at how that might tip the scale one way or the other.

As far as the TRC, Total Resource Cost,

effectiveness calculations, they did include environmental externalities.

MR. AHMED: Not other benefits, just the energy and the environmental benefits?

MR. JACOBS: Correct, correct.

MR. AHMED: Since many of these measures do not involve direct construction as far as say ducts or insulation or HVAC equipment and so on, what is the assumed life of the analysis. Is it assumed 15 years because in some of the measures which could be behavioral, may not have a life more than one to two years.

MR. JACOBS: You know in terms of the program cost effectiveness calculations, we just use the measure of life assumptions that are inherent in this energy study. So, for each individual measure, there is a measure life associated with that, so when you balance the cost and the benefits, the benefits are realized over the effective useful life in the measure.

MR. AHMED: However, your very first measure is not necessarily involving any construction costs or construction, it may be more behavioral, right? I don't have the report with me.

MR. JACOBS: The measures are adopted according to -- no, these are hard measure adoptions. They are not behavioral things such as turning down thermostats manually and things, that type of thing, but the adoption rates are based on adoption rates that the utilities have seen for residential audit programs. For example, if information to all homeowners, then, results in an audit, and then a homeowner then voluntarily adopts some number of hard measures, according to that audit at their own cost, then the energy savings are essentially -- those that result from the adoption of those measures and the benefits are calculated according to the useful life of the measure that were adopted voluntarily by the homeowners at their own cost.

MR. AHMED: Do I understand, then, let's say when you say adoption of 6 to 9 percent for a measure, so you take 6 to 9 percent of the population, and then you take another percentage of that, of those homeowners who are only going to install a few of the measures.

MR. JACOBS: Exactly.

MR. AHMED: Okay, it's not very clear. Do you have those, the adoption rates versus -- I

mean the actual number of customers or homeowners who will actually install versus the adoption rate, the breakdown of those numbers?

MR. JACOBS: Yeah, that is all available in the consultant report, the appendixes, the consultant report.

MR. TRENSCHEL: In answer to your first question regarding the funding. As I recall, all of these strategies, the eight that we had savings for and costs for, my recollection was is that with the exception of the residential whole building diagnostic testing and the presidential equipment tune ups that we had identified PGC funding, but it may be that is not clear in the report as is, so we can go back and make sure that we clarify where the funds come -- what our recommendations are for the funding.

MR. AHMED: Right, I think that will help because if we look at the overall totals, you might just think the entire amount is to be funded through PGC funds.

MR. TRENSCHEL: Right.

COMMISSIONER ROSENFELD: Although, Dale, if I understand it, in fact, a very large fraction of it would come from PGC funds?

MR. TRENSCHEL: That's right.

MR. AHMED: That's all for now.

PRESIDING MEMBER PFANNENSTIEL: Thank you. Other comments on residential strategies or questions?

MR. BREMAULT: Let me just make one comment. I'm Rob Bremault with the Sacramento Municipal Utility District. We currently offer on the web a service called "Your Account" where residential customers can view 13 months of their billing history. It also has payment history along with it, so disclosure by that homeowner to the realtor may be a little iffy given the payment history that goes along with that, that usage history.

We are looking at revamping the website to maybe add a field for a rating system, and then lead into some analysis with that rating system that then would step the homeowner into an audit tool, an online audit tool to simply that and provide some information to the existing homeowner and potentially the new homeowner through the realtor channel.

PRESIDING MEMBER PFANNENSTIEL: That's something you are working on now?

MR. BREMAULT: Yeah, it is in development, so we are looking to put something together by the first quarter of next year.

COMMISSIONER ROSENFELD: Rob, this is Art Rosenfeld.

MR. PERKINS: Dan Perkins again at San Diego. At one time, SDG & E had a nice graph that came out with that. It was very visual to see where your peak use was on both gas and electric.

They've dropped that, that's okay. I am able to do that on my phone for the customer, but the graph was a nice illustration for where your peak was at on a month by month basis.

I think with AMI coming on board, we are going to be able to really take an accurate look at what our consumption is on an individual day by day basis.

PRESIDING MEMBER PFANNENSTIEL: Thank you, sir.

COMMISSIONER ROSENFELD: This is Commissioner Rosenfeld asking the same thing about AMI. Is SMUD going in for these new fangled interval meters and have you thought about upgrading your 13 months of data when you have interval data, and it will be in fact very

interesting?

MR. BREMAULT: We have interval data on a sample group of residential customers for load research and rate design purposes. Our board has not come out with a policy regarding mandatory roll out of real time meters. We do optional time-of-use meters. We are in to the AMI exploration and looking at ways in which we can automate the reading of those meters for the safety of our meter readers and the cost effectiveness of reading meters.

We are taking a little bit different strategy, but our board is definitely monitoring the IOU's movement in the real time meter and AMI progress for the PUC.

COMMISSIONER ROSENFELD: Thanks.

MR. PERKINS: The sample that was taken in San Diego by the SDG & E indicates that there's some pretty dramatic savings that can be done with demand response at the residential level and pretty enthused about making that leap from demand response in commercial industrial down to residential as well.

PRESIDING MEMBER PFANNENSTIEL: Thank you. Bill?

MR. PENNINGTON: Yeah, I just wanted to make sure that people recognize that our information to all strategy is basically very similar to what's being talked about relative to what SMUD said and what the gentleman on the phone was talking about related to SDG & E.

We would like to see the utilities establish internet portals that would be very user friendly that would have billing information readily available there, and would allow the customer to analyze their own situations and also get information through that kind of medium to programs that the utilities are offering.

That is all sort of tied up in our information to all proposal.

COMMISSIONER ROSENFELD: Bravo.

PRESIDING MEMBER PFANNENSTIEL: Other comments on residential?

MR. BLUM: Yes. Is there anything like I see here --

PRESIDING MEMBER PFANNENSTIEL: I am sorry, sir, if you want your comments to be recorded, you need to --

MR. BLUM: I must say this, and I think I can say I have so much experience with the

residential homes and what's going on, and I am so much puzzled and one thing is that the customer come and say that PG & E does not even question why they have such a substantial drop. Is this not what PG & E does if they see a strong deviation, that they go and try to find out what the reason is?

MR. SEGERSTROM: For a decrease in consumption?

MR. BLUM: Dropped.

MR. SEGERSTROM: There are -- our Energy Theft Division does look at numbers like that.

MR. BLUM: Okay, I have it, but I have it in reality have it and people wondering because I get this complaint that they said why do they not recognize it. You should as PG & E already should come and say, hey (indiscernible).

PRESIDING MEMBER PFANNENSTIEL: I would like to before we are scheduled to take a luncheon break here, but before we do that, I'd like to get a sense of whether the discussion in the afternoon on the other strategies, the non-residential and the staff report calls the overarching strategies, how long we think those discussions will go.

If they are going to be sort of less

than an hour's worth of discussion, then I would recommend that we just continue going and finish them up. However, I don't in any way limit the discussion that remains or the time that remains. We are here as long as there are people who want to talk to us.

So, is there some sense of the people in the room and the people on the phone on whether their remain issues to be raised, discussion topics that haven't yet been raised? We can go around the table and see what we think in terms of further work to be done here. Bob or Mike?

MR. RAYMER: Bob Raymer with CBIA, while we are interested in non-residential area, about 15 percent of our members are in light commercial construction, our main interest was the residential portion.

PRESIDING MEMBER PFANNENSTIEL: Thanks. Bruce?

COMMISSIONER ROSENFELD: I think Mike was trying to --

PRESIDING MEMBER PFANNENSTIEL: I'm sorry, I didn't see.

MR. HODGSON: The only question I have is probably what the next process is going to be

because I know you have a time line to get a report to the business meeting and then to the Legislature, so when comments are due would probably be our next interest.

PRESIDING MEMBER PFANNENSTIEL: Okay. We will get to that. Bruce?

MR. CENICEROS: I think we will have a comment or two about the interaction between retro-commissioning in benchmarking in particular and how those would be implemented.

PRESIDING MEMBER PFANNENSTIEL: PG & E?

MR. EILERT: I don't think we have anything specific. We are kind of interested in process, whether it be written comments accepted after this meeting and so forth.

PRESIDING MEMBER PFANNENSTIEL: So Cal Gas, any?

MR. AHMED: We just have one or two comments on the retro-commissioning and about the process as PG & E stated. Also, I think I didn't get an answer to the question on regarding the PGC funding whether it will be inaccessible, what is currently being funded --

PRESIDING MEMBER PFANNENSTIEL: I think that will be up to the Commission to determine in

a recommendation to the Legislature.

MR. AHMED: Okay, I was wondering if it was going to be a part of the recommendations.

PRESIDING MEMBER PFANNENSTIEL: We don't know yet.

MR. AHMED: Okay.

PRESIDING MEMBER PFANNENSTIEL: Stan, other discussion?

MR. WIEG: We are very close to where the builders are, a small portion of our interest is in non-residential. We have supplied your staff with a brief comment letter, and we will follow up after this meeting if it is appropriate.

MR. CONLON: Our only comment on commercial had to do with the correspondence between the benchmarking and retro-commissioning and that the savings may be smart to allocate savings to those two things.

PRESIDING MEMBER PFANNENSTIEL: Okay, other people -- it sounds to me like we probably can keep on going, and --

MR. CENICEROS: I'm wondering how close to finish we are with the residential?

MR. PERKINS: This is Dan in San Diego again, and I really think we need to spend some

time on how it is that we are going to do contractor training, where the funds are going to come from, how that process is going to take place at the IOU or where it is going to take place.

PRESIDING MEMBER PFANNENSTIEL: Thanks, and, Bruce, you were saying you didn't think we had finished residential.

MR. CENICEROS: I didn't see an indication yet that we've exhausted the comments. So, I was just wondering if you wanted to take a quick --

PRESIDING MEMBER PFANNENSTIEL: Oh, okay, I thought we had. Do you have a preference, Art, breaking or not?

MR. ROSENFELD: I don't care.

PRESIDING MEMBER PFANNENSTIEL: We run into this dangerous time when you go another 45 minutes and people get really hungry and then they get real grouchy.

MR. PERKINS: It's okay, I can call back.

PRESIDING MEMBER PFANNENSTIEL: I'm thinking that maybe we should take a break now, and then come back and spend whatever time is necessary this afternoon.

So, let's break for an hour and come back at 1:00. Thank you.

(Whereupon, at 11:56 a.m., the workshop was adjourned, to reconvene at 1:10 p.m., this same day.)

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AFTERNOON SESSION

1:10 p.m.

PRESIDING MEMBER PFANNENSTIEL: I want to call this workshop back to order.

We took a bit of an extended lunch, and I hope that's indicative of people deciding that they can finish it expeditiously this afternoon.

COMMISSIONER ROSENFELD: They finished expeditiously.

PRESIDING MEMBER PFANNENSTIEL: We will move through. I think the first order of business is to see if there are other comments or discussion on specifically on the residential strategies. We have one more. Thank you, sir.

MR. CHAPMAN: Commissioners and audience, I'm Jeff Chapman with California Living and Energy. I've been doing some thinking, and my comment isn't made in a realm of here is a solution, but with a combined wisdom in this room, I think there is a solution.

Earlier Mike mentioned about some definitive issues, and he mentioned that in the retro market, possibly there were three issues that could be explored for increasing energy

efficiency. One was R 38 in the attic, tight duct testing, and also replacing the glass, the windows.

Bill's comment was well taken. We know it is a cosmetic issue, yet for my wife, it is a big issue. So, we will do that.

What I am struggling with and the way the language is presented is that this is a voluntary program, but energy use isn't a voluntary issue. We have a budget, we only have so much energy we can use. I am teaching the 2005 code change every week, and when builders begin to realize and architects begin to realize there is only so much energy available, but the amount of construction increases per the statistics that Pete has in this report and staff has, why is it that we don't have something prescriptive since most of us in this state from our point of buying to our point of sale are going to make quite an increase in profit.

That something is expected at that point of sale at the escrow office to show some sort of energy efficiency. Maybe not three components as Mike suggested, his point was well taken, but maybe we just focus on something like R38 and/or

tight duct/tight duct improvement in the EER values, SEER value of the condenser, whatever scenario because if this is only voluntary, and it is one in ten, the average home seller is going to say glad you came by, appreciate your request for my information on how much electricity I use, I'll wait for the other eight to come, and I will make more money.

I realize that my comments are not definitive in terms of this is a solution, but if we all have this problem, I don't care about a person's personality type or attitude, you are going to stand shoulder to shoulder with me, and we are going to fix the problem.

PRESIDING MEMBER PFANNENSTIEL: Thank you.

MR. PERKINS: We have to make the rubber hit the road. It is going to require facilitators at all levels in order to make this happen; industrial, commercial, all different types of commercial, and those facilitators are going to have to step up and make sure that job is done.

That is where we are stepping in at San Diego.

PRESIDING MEMBER PFANNENSTIEL: I'm

sorry, would the person on the phone please always identify yourself?

MR. PERKINS: I'm sorry, Dan Perkins, Smart Energy Homes San Diego. I'm sorry.

PRESIDING MEMBER PFANNENSTIEL: Okay.

MR. CHAPMAN: I appreciate Dan's comments from San Diego's perspective, but what about from south of San Diego to north of Eureka? We have a responsibility to use our energy wisely. I've never thought about buying a hybrid car, and all of the sudden I am thinking about the next car I buy is going to be a hybrid. Why? It is smart.

Well, most home buyers are just trying to get in, they are not going to think about all the electrical use and everything, they want to see if they can make the house payment. If we do something proactive that gives substance that says this is how we are going to save, then you can quantify the KWhs and everything else and have something to present to the Legislature and the governor that will show substantial savings.

I thank you for taking up your time.

PRESIDING MEMBER PFANNENSTIEL: Thank you.

MR. PERKINS: Dan again here in San

Diego. Of course, we are incorporating the EM & V, the Evaluate Measure and Verify Program, and I think that's going to be part of quantifying what it is that is actually going on out here.

PRESIDING MEMBER PFANNENSTIEL: Thank you. Hearing nothing else specifically on residential, I would like to move on to some discussion of the non-residential strategies that were proposed. Before lunch, I heard a few parties who wanted to comment on some of the issues on the non-residential. I think specifically the benchmarking retro-commissioning.

Anybody here who wants to take that on?

MR. AHMED: This is Abdullah Ahmed, Consultant to Southern California Gas. Regarding the analysis done on benchmarking and retro-commissioning. In fact, as a general comment, I just was wondering how the savings are calculated because the fact that we do an audit or a study does not necessarily guarantee that the building owner or the building occupant is going to adopt or actually implement the recommended measures.

What I was wondering is in the cost benefit analysis, what was really assumed as a cost? Just the audits themselves or just the

implementation cost themselves, or the entire cost of the audit plus the implementation.

In other words, you do ten audits, and the only two -- two of the audits are translated to implementation, so does the cost include the ten audits plus the two implementations, or is it only just the two implementations?

If it does, I'm kind of curious because the benefit cost ratio seems to be very high whereas the IOU's are implementing direct implementation programs, and some of those cost benefit ratios are not that high. So, that was my question.

PRESIDING MEMBER PFANNENSTIEL: Can you address that?

MR. JACOBS: Yeah, I'll be glad to address that. In terms of how the costs are calculated, the short answer is all those details are presented in the appendix to the consultant report, and I can lead you through those offline or whatever form is appropriate.

To answer your question directly, we did say for example, the audit, the information on homeowners as an example. There is a cost in there to provide the audit that is accounted for

for all customers who when presented the opportunity to have an audit, choose to do so.

There is some adoption rate associated with the audit itself. Okay, so for everybody that says I want an audit, then there is a cost associated with that that is calculated. Then some number of people having chosen an audit, will look at the report and say, okay, I'm going to implement this, this, and this. So, the cost associated with installing those hard measures based on the recommendation coming from the audit, is included in the cost benefit calculation.

Costs are assumed to be born by the homeowner, there is not an incentive in this particular intervention that is provided. It is just homeowners voluntarily presenting information and deciding to take action. Then the rates at which we are assuming that homeowners are taking action after reading their audit reports, are basically congruent with the observed measure adoption rates from the evaluations of the utility residential audit programs.

MR. AHMED: The cost of the -- in your TRC calculation, the cost includes the cost of implementation, that also includes the cost of the

audits of the entire program, or just those participants.

MR. JACOBS: It includes the cost of the audit for all people that requested one and the cost of measures for the subset of those people who actually implement based on the audit recommendation.

MR. AHMED: The implemented measure that you assume, I heard you say earlier that most of them are HVAC related, right?

MR. JACOBS: Not necessarily.

MR. AHMED: I thought you said like 50 percent HVAC assumption at one point. I don't know --

UNIDENTIFIED VOICE: I think that's residential.

MR. AHMED: Oh, that was residential, okay.

MR. JACOBS: The adoption rates vary by measure, and so it depends on the particular intervention.

MR. AHMED: Did you compare your cost benefit ratio analysis with similar utility programs to see how they compare?

MR. JACOBS: No.

MR. AHMED: I would advise you to do that because some of the measures you might be including are already existing programs with certain utilities, and you can see their filings and maybe your benefit cost ratios are not in line with theirs, or if not, what is the explanation.

I think you are doing more audits and fewer implementations than utilities are doing. Utilities are doing direct implementation through incentive measures. So, their costs are lower, and your costs are higher in your analysis, and yet, the TRC values seem to be high. That is just a cursory check that I just did.

MR. JACOBS: Okay, yeah, I guess I would appreciate it, you know. We can certainly do that and do those, but also if you have an opportunity to review the details of the calculations in the appendix. If you see something that jumps out at you, please let me know.

MR. AHMED: Okay.

PRESIDING MEMBER PFANNENSTIEL: Thank you. Other issues, comments on the non-residential strategies?

MR. PERKINS: Does that include multi-family?

PRESIDING MEMBER PFANNENSTIEL: Yeah, we haven't talked about them. Let's get to them in perhaps in a separate category.

MR. PERKINS: Okay.

MR. BLOMBERG: I'm Jerome Blomberg, and I represent Sunoptics Skylights, and I've been an advocate for daylighting buildings for 20 some years.

The last time that we had a review, the consultant had not addressed daylighting as one of the strategies in non-residential buildings, and first, has that been added in any way?

MR. JACOBS: We do have daylighting controls. I am trying to find it. Why don't you -- let me flip through this a little bit. Why don't you continue.

MR. BLOMBERG: Anyway to go back and bring the subject up again, one of the issues that I am not clear on is whether or not there is a clear return on investment of all of the things that are being considered. In other words, how much is taking KW of power offline at peak hours.

In other words, does the Commission have an idea of what they think it is worth to do that? You know, that is separate from the KWhs per year,

but each one would have a separate value to the state, and daylighting happens to fit very well into both of them.

In other words, in a new construction, simple type buildings, we can replace a KW of electric lighting for somewhere between $500 and $1,000 in simple retrofits, and that would probably be a little higher.

It still is a bargain compared to building a new power plant which consumes energy, so that same investment would deliver probably 2,800 KW a year in savings. That would be based on building use. Obviously if you run the building seven days a week from dawn till dusk, you are going to get more benefit than if you are operating eight hours a day or whatever.

Anyway, so in thinking about it and being exposed to the problem of daylighting and getting it installed in new buildings and existing buildings, there is such a variety of applications, especially in retrofit.

To try to figure out a prescriptive standard of when you would implement that is nearly impossible. We are renting a building and we want to daylight obviously, and the building

was built 30 years ago or 40 years ago, and the structural requirements today are different than they were 30 years ago when the building was built.

So, we are having to limit the area that we can daylight because we have to maintain the shear in the building and that sort of thing.

So, to complicate the world of mandating in a world like that, I think an incentive, a financial incentive based on KWhs -- not KWhs, but peak load, and the utilities have always had a concern of, gee, if we count on that power being taken off line, how do we know that somebody won't go up there and put a piece of tape over the photo cell, or it will be changed, or it doesn't necessarily function.

I think that if there was to become a financial incentive, that the utilities should have the right to put in a switch that they could turn the power off on all of the lights that are under photo controls, just like they do with air conditioners and that sort of thing. That would guarantee that it would be available.

Anyway, that is the position that I would like to present that it works, it has been

around for a long time, we are actually producing about 1 1/2 MWs of saved power a week. We do most of the WalMart stores. To ignore it and not to identify what it is worth to get that off line and make that available at everyone of our considerations here doesn't make sense to me because there are two issues, one is reduce consumption of non-renewable energy, and the other is to reduce peak so we don't have brown-outs/black-outs or have to build new power plants in somebody's backyard.

COMMISSIONER ROSENFELD: This is Art Rosenfeld. I think you've made three points, and I think we've (indiscernible) all, although we will give Pete Jacobs a chance to back me up.

First of all, you said daylighting is a very good idea, and we at this table certainly agree.

Secondly with how you get credit for the fact that it is coherent with times of congestion with electricity is expensive and scare and so on, I guess you know that both CEC and the PUC have adopted time dependent evaluation of electricity which is cost calculating for every hour of the year, and it goes up to the worse peaks of the

year to numbers like $3.00 a KWh.

I hope that when Pete Jacobs did his cost effectiveness calculations, he used time depend evaluation of electricity.

MR. JACOBS: To an extent. I'll explain.

COMMISSIONER ROSENFELD: Which he will explain. The third point, and then I will get to Pete Jacobs, you said this is something which you don't want to mandate, you mainly want to have incentives for it. Again, that is not Pete Jacobs, that is -- the incentives which the utilities calculate these days based on time dependent evaluation of electricity. For that reason, photovoltaics as a supply side and daylighting on the conservation side get huge recognition which they didn't before TDV, and so, again, I think we are all on the same pathway, but Pete, you are going to explain what "kind of" means.

MR. JACOBS: Yeah, well, I think the first question was did we consider daylighting in the report. The answer to that is, yes. Although the daylighting strategies that we looked at were probably not as aggressive as I think what you are

suggesting which is to retrofit skylights and daylighting controls to buildings. This is more looking at putting in daylighting controls in spaces that already had architectural features that would allow them to be daylit, so --

COMMISSIONER ROSENFELD: I guess that is called daylight harvesting.

MR. JACOBS: Yeah. So, we are harvesting existing daylight, not necessarily making alterations to buildings, at least in terms of the way we looked at it in the report. So, your point is well taken.

In terms of time dependent evaluations, we used avoided cost numbers that were levelized. In other words, an average KWh or since KWh that varied by measure type according to the way that the measure responded relative to peak pricing.

For example, HVAC measures we used a higher avoided cost than say refrigeration, which is flat. So, we didn't do our analysis of each individual measure on a 8760 basis, but we did it on an annual basis, but applied weighted avoided cost values depending on the end use.

COMMISSIONER ROSENFELD: Right. As I recall, what is en vogue is to have three prices

for electricity: those things which use on peak, shoulder, and off peak as you just said. The avoided costs has been averaged into those prices.

MR. JACOBS: Correct.

MR. BLOMBERG: Then if you take the life of a skylight in 20 years and you use it on a WalMart type store or any store that is open seven days a week, the cost per KWh saved gets down into the 1 1/2 cents to 2 cents a KWh over the 20 year period, and we can anticipate that, you know, energy costs are going to go up.

If you see the advertising that Chevron is doing and double page ads in every paper in the United States, it says we are going to run out, guys, start thinking about it. We just have to look at that -- not mandate it, you know, just give a reasonable incentive that is based on what it is worth.

You ought to have -- what ever it is worth, if it is worth or you could justify a dollar a watt, then make that the incentive. If you can justify ten dollars a watt, make that the incentive, but get the results by people volunteering to do it, and the utility having full control over that. If you didn't want to have

control over it, you get to pay back the incentive. it is a simple deal, but let's get the benefit. Anyway, that's --

PRESIDING MEMBER PFANNENSTIEL: Thank you, sir, those were very thoughtful comments, I think we will incorporate those.

Other issues? I would like to make sure we address multi-family, but are there other non-residential before we get to multi-family issues?

MR. CENICEROS: A couple of things. Bruce Ceniceros from SMUD. In looking through the benchmarking section kind of raised a general question in my mind. I am trying to figure out how you will convert what you have in the staff draft right now to actionable items, recommendations to the Legislature.

There are a lot of utilities should and the Energy Commission should, things like that in here, those types of statements, but are you planning to give a very clear list of things that will require legislation and say here are the things we want you, the Legislature, to enact in law with new bills, and this is what they should do and who should be involved, and budget recommendations, and things at that level of

detail, or is it going to look pretty much like what we see here?

PRESIDING MEMBER PFANNENSTIEL: That will be -- I think that Art and I will receive comments from today from written comments following today, and that will have to be our determination as to whether we think that there are in fact legislative proposals that would emerge from the staff draft and the comments to that staff draft. Then put those in a report that then the Commission has to decide whether it agrees with those legislative proposals.

MR. CENICEROS: Okay, but there will be some effort to kind of sort out what specifically would require legislation and make that very clear in that report that goes to the Legislature versus things that would be maybe the CPUC's purview to take up in one of their existing proceedings or a new proceeding, that kind of thing?

PRESIDING MEMBER PFANNENSTIEL: Right.

MR. CENICEROS: All right, back to benchmarking for non-residential buildings. I was trying to understand the intentions here for -- first of all, I acknowledge that you've already outlined a process for doing a whole proceeding or

effort initiative of some sort to really delve into the details of what the needs for benchmarking would be and how to go about it and how to develop a model that will work for California. I see that in that table in there in the back of the report.

In the earliest section there, around page 25, there is something that you describe several levels or recommended several levels of benchmarking tools be made available by utilities. The most simple being something like a report I am assuming would be simply reporting relative energy use, maybe per square foot or something for a certain type of building SAC code and then getting more involved with collecting information about specific equipment in a building and use and things like that.

COMMISSIONER ROSENFELD: Particularly for the energy hogs.

MR. CENICEROS: Right. I'm trying to figure out how the multiple levels would fit in with what is recommended in a table near the back there on page 69, the third row from the bottom, it mentions implement automated benchmarking.

I guess I am trying to reconcile here.

What is the requirement that you are recommending be put on the utilities. Is it to develop the least and most level of benchmarking tool here and then if we want to as utilities see value in going beyond that and going to additional levels where you have to get out on the site and collect information about the equipment and the uses in that building, we can do that, or are you thinking that it will be a multi-level program that utilities would be required to do.

This is a very complex initiative here, but I just don't quite see looking through here what it is you have in mind.

MR. PENNINGTON: Related to the benchmarking tool that the Green Building Initiative directs the Energy Commission to develop a plan for.

The current thinking on that is that it would be a multi-level tool that would have a very simple energy per square foot by SIC code kind of level as you mentioned, and then also would have other levels that would allow the user to zero down and better apply the tool specifically to the energy use of that particular facility.

MR. CENICEROS: The building owner would

be the one collecting that site specific information to get more value from the benchmarking tool, or would it be the utility --

MR. PENNINGTON: Yeah, there may be some input. It is undefined who would collect the information. Basically, to get down to that lower level would require better information about the end uses in the building and so forth. This is under development, and you know we are headed down that path.

I think what is intended now is that the utilities are a partner in delivering that tool to the industry. The GBI basically says that all commercial buildings should be benchmarked, and there should be a plan for doing that. It is really not feasible for a huge number of commercial buildings to be benchmarked without active involvement of the utilities. There is definitely going need to be a partnership here in terms of rolling out that tool once it is developed and figuring the best way to deliver that information.

MR. CENICEROS: Okay, I guess my comment would be then that I can see how you have really worked hard to address the shortcomings of a

benchmarking tool in terms of the more simple you make it, the less informative it is for making true comparisons and identifying the true potential of this particular building plus the multiple levels, but I don't see in here where any reference to maybe the need to prioritize the list of all commercial buildings in California to put all your effort into the ones that will yield the most benefits. You know, maybe the largest buildings, the ones that look worse when you use just that first simple comparison, that first level of benchmarking and going into those buildings and maybe a phased approach of some sort.

COMMISSIONER ROSENFELD: Maybe I can back up Bill with a couple of comments about -- maybe we have to say this a little more clearly so we don't sound too vague.

This is a two step process. That is under the PIER program, in fact, under Martha Brook whom you know, we have agreed to develop a tool. We are not really developing a tool. I mean there is an EPA tool and there's California data to put into it to make sure that it is pretty good at predicting energy use.

The Energy Commission has the responsibility of taking this up to the stage where we think the energy intensity per square foot can be predicted plus or minus let's say 20 percent.

That will give the utilities who have to implement this program a chance to figure out which are the interesting candidates, which are the energy hogs, and they should give further drilling down, and which are the show case buildings which should get some credit I guess.

Then we will turn that over to the utilities who have the implementing power and the public goods money, and they will decide where they want to emphasize getting more information. Of course, if they get more information about schedules and age of building and so forth and so on, the accuracy will improve, but at a cost per square foot which they will have to figure out.

The Energy Commission is only committed to developing the tool and then handing it off to the implementors which will be the IOU's and hopefully SMUD. I don't know if that helps at all.

MR. CENICEROS: Yes, it does. It sounds

like a good approach.

PRESIDING MEMBER PFANNENSTIEL: Do you have other questions, Bruce?

MR. CENICEROS: No, I think that covers (inaudible).

PRESIDING MEMBER PFANNENSTIEL: Other questions on the non-residential strategies and then as I said, I would like to move on any specific issues on multi-family buildings.

Let me start with multi-family be specifically asking staff are there strategies designed with specific other than the low income, are there other multi-family issues or strategies that were identified, I didn't remember seeing any except for the low income questions.

MR. PENNINGTON: Are there strategies that do not apply to buildings --

RESIDING MEMBER PFANNENSTIEL: Multi-family non-low income.

MR. TRENSCHEL: Only in the sense -- not a specific separate strategy that has been called out there, only there was some acknowledgement in there that some of the items that we have in terms of the technical assistance, we have this technical assistance option for building owners or

non-profit associations, those kinds of things, that some of those same steps could be used for other multi-family properties, but we didn't provide a separate strategy that separately quantified savings for non-low income or for other categories of multi-family housing other than what is in the report now.

Maybe I made worse than better, I don't know.

MR. RAYMER: Bob Raymer with CBIA, what you've got in here would apply to multi-family housing, whether it is low income or not. You know, the educational thing with the property owners could be incredibly useful in providing them with a way of determining where to get the biggest bang for the buck.

I think that is a very useful approach. I used to run multi-family over at Sac State, and it would be nice to have access to somebody that wasn't necessarily selling a particular widget that could give me some advice on upgrading the unit.

MR. CENICEROS: You know, this might be helpful, it might be a good area for some additional -- this is Bruce Ceniceros with SMUD.

This might be an area that needs some clarification because at SMUD we are now talking about trying to do some new programs for multi-family, especially low income. The things that distinguish low income multi-family are mainly the tools that you have available there that you don't with regular multi-family housing, such as the California tax credit allocation committees, resources and credits, and advantages for competitive bidding, and things like that, getting a credit on the score, and making it easier to win a project for the developers if you include energy efficiency as part of the project.

I think you could almost convert all of these recommendations to cover all the multi-family, but then call out what is unique about low income multi-family and the resources that you would want to make sure to take advantage of and how you would do that as a qualifier there.

Along the same lines, most of the other residential measures, although to be applied differently, would also work in multi-family housing. You just have a different set of actors, different transaction train going on, and you have to approach them differently.

They don't all work, but some of them do, so you might want to clarify that those measures would also apply to multi-family because it sounds like they are all in the single family.

PRESIDING MEMBER PFANNENSTIEL: It does seem like the analysis would be different between the results, the savings potential would be different between the single family and the multi-family, and the multi-family and the low income multi-family.

MR. JACOBS: Correct, correct. Just to clarify, the information to all homeowners initiative and the residential building, HVAC diagnostics initiative were applied to single family and to multi-family, but they were applied to multi-family condos. In other words, not to rental property, but to owner occupied multi-family. Then on the low income, that was applied strictly to low income renters, so we've got a little bit of a hole in the strategy here. We don't have non-low income rental necessarily targeted. It is a little bit tougher nut to crack.

At this point and in terms of our energy savings estimates at least focused on owner

occupied, both single and multi-family buildings.

PRESIDING MEMBER PFANNENSTIEL: Because according to the numbers in the executive summary, it looks like there is something like 3.6 million multi-family units, so I don't know what percentage of those would be low income, probably not a large percentage, so that is a big hole if they have separate strategies or separate analyses for them.

MR. JACOBS: Those details are already in the appendix. You can really explore that in a little more detail.

PRESIDING MEMBER PFANNENSTIEL: Stan?

MR. WIEG: Stan Wieg from the California Association of Realtors. One other pitfall which I did not see addressed, and may be there and I missed it, but I did not see it addressed in your program of incentives and implementation for multi-families is that a great number of our units, particularly older housing stocks are in rent control jurisdictions.

If we are to properly incentivize the owners/landlord to make improvements, if he cannot capitalize that and factor that into the rent, then he has an active disincentive not to make

that investment conversely. Even if we do assume they are cost effective and therefore, it will increase yield in some of the radical rent control jurisdictions, he will not be permitted to realize that additional profit off of the rental situation.

So, I'm not saying it won't work, and I am not trying to make it sound impossible, but what I am suggesting is that it is something that when the Commission is making a recommendation to the Legislature, it should take into account that in a rent control jurisdiction, a different pattern of incentives will have to be used, either there will have to be a specifically permitted pass through for energy improvements, and if they are socially desirable, I suspect that is viable.

There will have to be a different combination of splits in the incentive between the tenants and the landlords, so as to motivate the tenants to accept those and make those kinds of investments.

PRESIDING MEMBER PFANNENSTIEL: Thanks.

MR. PERKINS: Stan, in San Diego, I think time-of-sale if that can be tracked, is an opportunity to implement that.

MR. WIEG: I'm sorry I don't understand.

MR. PERKINS: At the time of sale, the multi-family because there is turn over in that market.

MR. WIEG: Of course, but that doesn't necessarily disturb your right to quiet enjoyment of the apartment by the tenant. Indeed, the occupancy is often a significant factor in the value of the rental property. What you want to avoid is a situation where you force a landowner of whatever sort, force a landowner either at time of sale or some other time to make or try to incentivize him to make an improvement in the property which cannot be cost effective for him because he cannot recover the cost.

Most of the things that we are talking about have been improvements in the property, conservation measures which are cost effective. They pencil out. If we are under an artificial constraint on the landlord so that he or she cannot recover the savings, then you have created a situation where they can never pencil out.

I am not saying there is no solution, but I am just saying one would have to be careful to craft the incentive either with an attached

exemption and pass through ability or an ability to somehow otherwise factor that into the rent control equation.

PRESIDING MEMBER PFANNENSTIEL: Bob, did you have a comment on that?

MR. RAYMER: Bob Raymer with CBIA. I agree with what Stan is saying, you have to factor in the fact that there is a lively disincentive to do this.

With regards to the speaker on the phone, with multi-family construction, you have to differentiate between owner occupied and renter occupied. The project that I managed across the river from Sac State, we had both apartments and dormitories. We went through three different sells of the entire project in a 2 1/2 year period with no impact whatsoever on tenancy.

The people just continued living in the units from one owner to another to the third owner. As a matter of fact, they went to a force sale after, shortly after I left, so there is two different apples and oranges here in terms of condominiums versus apartments.

I agree with what Stan is saying, you've got some rabid rent control jurisdictions out

there that you are going to have to work with. I think once you start working with them politically, I think they will be very helpful, but if you just try to come in and say we need to do "X, Y, and Z" they will be very resistant.

MR. PERKINS: My point is that I think -- this is Dan in San Diego again, that the opportune time to take advantage of incentives would be at the time of sale, maybe a reduction in interest, something is going to throw a bone at the buyer that is going to make them want to step up. I am saying that just happens to be a good opportunity to do it. I don't know how it is that you wrestle with a lot of these other issues that you've talked about, existing tenants.

PRESIDING MEMBER PFANNENSTIEL: I am now I think going to open this to any other discussion, comments, or questions on the staff report. I think we have touched upon in depth a number of the specific strategies. There are other areas that I think the report covers quite well, but this is an opportunity to offer up any thoughts or questions and make sure that people leave here understanding as much as anybody wants to within the report and the analysis that

underlies it.

MR. PERKINS: I brought up before lunch the contractor issue on training and certification. Are we on track for having a good solid footing on what our contractors are going to be required to do out here?

PRESIDING MEMBER PFANNENSTIEL: Bill, do you want to answer that?

MR. PENNINGTON: I am not sure I understand the question.

MR. PERKINS: In other words, are we going to require certification, are they going to have to be check made or an analysis or certified in order to tackle the HVAC starting in October?

MR. PENNINGTON: Okay, that is way off the subject of this meeting.

MR. PERKINS: Okay.

MR. PENNINGTON: I don't know if you want me to respond to it.

PRESIDING MEMBER PFANNENSTIEL: Sure.

MR. PENNINGTON: Yes, we are on track for being prepared for the October 1 effective date for the 2005 building standards requirements for duct ceiling when HVAC equipment is changed out.

There are pretty substantial efforts that are going on to provide training to contractors and to HERS raters in the Southern California area. For example, Southern California Gas Company is providing quite a few training sessions. Southern California Edison has agreed to provide some, and both of those trainings are being coordinated with IHACI.

In Northern California, Pacific Gas and Electric sponsored a very large number of training sessions all over Northern California. I think there is about 1,300 contractors that have been trained at last count.

MR. PERKINS: Seems like I have a void in San Diego.

MR. PENNINGTON: I'm not familiar with what SDG & E has done frankly. So, perhaps we could answer that offline.

MR. PERKINS: Okay.

PRESIDING MEMBER PFANNENSTIEL: Yeah, maybe we can pursue that separately.

MR. PERKINS: Okay, thank you.

PRESIDING MEMBER PFANNENSTIEL: Other issues here. I know that many people are interested in our schedule, upcoming schedule.

Let me guess, Bob. Comments, written comments, and all of that; I think it is pretty clear that we need to work backwards from a date of October 1 when we are obligated to provide a report to the Legislature.

We would intend to adopt a committee report, a report from Art and myself to the full Commission on the preceding business meeting which is I think we said is September 21.

Sometime between now and September 21, Commissioner Rosenfeld and I need to take pen in hand and write a committee report, right, Art?

COMMISSIONER ROSENFELD: (Inaudible.)

PRESIDING MEMBER PFANNENSTIEL: That is what I thought. So, yes, we are going to ask for the continued help of this assembled group in doing that.

So, I would like and would appreciate comments, written comments on the staff draft. It would be most useful to me, and I'll ask Art in a minute what would be most useful for him, to have positive suggestions on, and the staff draft is organized around strategies, specific concrete strategies.

You don't need to feel compelled to use

that format if there is some other way you think you would like to organize your comments, please do so.

I would like them to be actively positive in the sense of what we might recommend to the Legislature. I think we are all in agreement that there is an enormous opportunity out there of energy savings from existing buildings. So, you know, work with us in terms of how do we go about capturing those savings. People have different ideas, the ideas expressed today were very very useful and very good ideas.

I think there is a wealth of analysis that has been done, a lot of which is reflected in this report, but there is more to mine, I think, if you want to go about doing that.

We will talk about the date in a minute, but let me ask Art if there is anything else you would like to see in the comments.

As for the timing then, since I feel that people wouldn't be here had they not read the report, so we've already kind of crossed that bridge. So, I would like to see comments in. what is reasonable, two weeks from now? Two weeks from now --

MR. PENNINGTON: The notice asks for comments in by this Friday.

PRESIDING MEMBER PFANNENSTIEL: I'm sorry, I did not see that. There is something already out there for comments by this Friday?

MR. PENNINGTON: Yeah, that was what the notice said, welcome through July 22.

PRESIDING MEMBER PFANNENSTIEL: I think then we need to stick with that. I don't think we have time to notice again. I would think we would have to reissue the notice in order to change that time. I might suggest that Commissioner Rosenfeld and I might be willing to entertain comments that come in a little after that.

I know for a fact that Commissioner Rosenfeld will because he will not be here --

COMMISSIONER ROSENFELD: That's right.

PRESIDING MEMBER PFANNENSTIEL: I would like comments in by this Friday, would entertain as late as the week after that. We then will create a committee draft that will circulate by which time we are going to be pretty tight on time, but that is what we intend to do is get around a committee draft for further discussion.

I don't know that we would intend to

have another workshop. Bill, is that an intent or Dale in the process?

MR. TRENSCHEL: No, I think this is the best opportunity for comments. The last workshop we were planning anyway at this point, and just for information, I think that to meet the 21st business meeting, we have to have something completed by about September 8 as I recall in terms of the report, the committee report.

PRESIDING MEMBER PFANNENSTIEL: Question, thoughts, comments?

MR. RAYMER: This is Bob Raymer with CBIA. As the sponsor of this legislation way back when, I would just like to say we are very pleased with the direction that the CEC is heading, and the fact that there seems to be a real active urgency to get something rolling from this.

We in no way wanted to detract from new residential regulations, but we also saw of the 13 million units out there, you have a huge chunk that has sort of been going ignored for the most part, and this will be a difficult kind of path to take, but a very worthwhile one down the road.

So, we are very pleased the direction you are taking. Thank you.

PRESIDING MEMBER PFANNENSTIEL: Thanks very much. I really want to thank everybody here for your active participation here and a lot of good thoughts. I filled lots of notebook pages today with I think excellent ideas and suggestions that we should consider as a committee.

Thank you very much, and we will be adjourned.

(Whereupon, at 2:01 p.m., the workshop was adjourned.)

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CERTIFICATE OF REPORTER

I, PETER PETTY, an Electronic Reporter, do hereby certify that I am a disinterested person herein; that I recorded the foregoing California Energy Commission Workshop; that it was thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said workshop, nor in any way interested in outcome of said workshop.

IN WITNESS WHEREOF, I have hereunto set my hand this 29th day of July, 2005.

Peter Petty